DISTRIBUTION SHEET

To Distribution	From Characterization Plans and Reports	Page 1 of 2 Date: 04/25/95
Project Title/Work Order WHC-SD-WM-DP-107, Rev. 0, "45-Day Safety Screen Results for Tank 241-U-201, Push Mode, Cores 70, 73 and 74"		EDT NO.: EDT-610423 ECN NO.: N/A

Name	MSIN	Text With all Attach	EDT/ECN ONLY
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C. E. Golberg	H5-49		X
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G. D. Johnson	G1-19	X	
N. W. Kirch	R2-11	X	
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P. Sathyanarayana	R2-12	X	
B. C. Simpson	R2-12		X
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OSTI	L8-07	2	
TFIC (Tank Farm Information Center)	R1-20		X

DISTRIBUTION SHEET

To	From	Page 2 of 2
Distribution	Characterization Plans and Reports	Date: 04/25/95
Project Title/Work Order WHC-SD-WM-DP-107, Rev. 0, "45-Day Safety Screen Results for Tank 241-U-201, Push Mode, Cores 70, 73 and 74"		EDT NO.: EDT-610423 ECN NO.: N/A

Name	MSIN	Text With all Attach	EDT/ECN ONLY	
Washington State Department of Ecology Single-Shell Tank Unit Manager S. E. McKinney P.O. Box 47600 Olympia, Washington 98504-7600		X		
Environmental Protection Agency Single-Shell Tank Unit Manager D. R. Einan 712 Swift Boulevard, Suite 5 Richland, Washington 99352		X		
U. S. Department of Energy Jim Poppiti 12800 Middlebrook Rd. Trevion II, EM-36 Germantown, MD 20874			X	
Los Alamos Technical Associates A. T. DiCenso 750 Swift Boulevard Suite # 4 Richland, WA 99352		X		

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ENGINEERING DATA TRANSMITTAL

Page 1 of 1

1. EDT 610423

2. To: (Receiving Organization)	3. From: (Originating Organization)	4. Related EDT No.:
Distribution	Characterization Plans and Reports	N/A
5. Proj./Prog./Dept./Div.:	**6. Cog. Engr.:**	**7. Purchase Order No.:**
Tank 241-U-201/Waste Management/CPR/Char. Eng.	Pat Sathyanarayana	N/A

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14. Required Response Date: 04/28/95

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1	WHC-SD-WM-DP-107	N/A	0	45-Day Safety Screen Results for Tank 241-U-201, Push Mode, Cores 70, 73 and 74	Q	2	1	

16. KEY

Approval Designator (F)	Reason for Transmittal (G)	Disposition (H) & (I)
E, S, Q, D or N/A (see WHC-CM-3-5, Sec.12.7)	1. Approval 4. Review 2. Release 5. Post-Review 3. Information 6. Dist. (Receipt Acknow. Required)	1. Approved 4. Reviewed no/comment 2. Approved w/comment 5. Reviewed w/comment 3. Disapproved w/comment 6. Receipt acknowledged

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2	1	Cog.Eng. P. Sathyanarayana					FOR JCK	5-1-95	R2-12 ~~H0-31~~		
2	1	Cog. Mgr. J.G. Kristofzski		5/1/95					TL-04		
2	1	QA T.L. Tung		5/3/95					S3-80		
		Safety									
		Env.									

18. A.E. Young
Signature of EDT Originator — Date 4-25-95

19. Authorized Representative for Receiving Organization — Date

20. J.G. Kristofzski
Cognizant Manager — Date 5/1/95

21. DOE APPROVAL (if required) Ctrl. No.
[ ] Approved
[ ] Approved w/comments
[ ] Disapproved w/comments

RELEASE AUTHORIZATION

Document Number:	WHC-SD-WM-DP-107, REV.0
Document Title:	45-Day Safety Screen Results for Tank 241-U-201, Push Mode, Cores 70, 73, and 74
Release Date:	May 4, 1995

This document was reviewed following the procedures described in WHC-CM-3-4 and is:

APPROVED FOR PUBLIC RELEASE

WHC Information Release Administration Specialist:

Kara M. Broz — May 4, 1995

SUPPORTING DOCUMENT

1. Total Pages 95

2. Title	3. Number	4. Rev No.
45-Day Safety Screen Results for Tank 241-U-201, Push Mode, Cores 70, 73 and 74	WHC-SD-WM-DP-107	0

5. Key Words	6. Author
45-Day, Safety Screen Results, Safety Screen, Tank 241-U-201, Tank U-201, U-201, Core 70, Core 73, Core 74	Name: Pat Sathyanarayana Signature Organization/Charge Code 8E480/MDR21

7. Abstract

N/A

8. RELEASE STAMP

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WHC-SD-WM-DP-107, REV. 0

ANALYTICAL SERVICES

45-DAY SAFETY SCREEN RESULTS FOR TANK 241-U-201, PUSH MODE, CORES 70, 73 & 74

Date Printed: APRIL 28, 1995

DISCLAIMER

TABLE OF CONTENTS

This Document consists of pages 1 through 92.

WHC-SD-WM-DP-107, REV. 0

NARRATIVE

45-DAY SAFETY SCREEN RESULTS FOR TANK 241-U-201, PUSH MODE, CORES 70, 73, & 74

ANALYTICAL SUMMARY

Three core samples, each having two segments, from tank 241-U-201 (U-201) were received by the 222-S Laboratories. Safety screening analysis, such as differential scanning calorimetry (DSC), thermogravimetric analysis (TGA), and total alpha activity were conducted on Core 70, Segment 1 and 2 and on Core 73, Segment 1 and 2 in accordance with reference (1) below. Core 74, segment 1 and 2 were taken to test rotary bit in push mode sampling. No analysis was requested on Core 74, Segment 1 and 2. Analytical results for the TGA analyses for Core 70, Segment 1, Upper half solid sample was less than the safety screening notification limit of 17 percent water. Notification was made on April 27, 1995. No exotherm was associated with this sample.

SAMPLE RECEIPT AND EXTRUSION

CORE 70, SEGMENT 1 (Riser 2)

Core 70, Segment 1 was sampled on 3/15/95, and received at the 222-S laboratory on 3/16/95. This segment was extruded on 3/28/95. Collected 193 gms of solid material and 35 gms of drainable liquid. No liner liquid was observed. The solid material was yellow in color with large chunks of crystals, did not retain the shape of the sampler. The 4 inches of material next to the sampler valve contained less crystals and was saved as upper half solids (jar #6605). The remaining material was saved as lower half solids (jar # 6579, contained more crystalline material than the upper half). Also noted some small black spots of material located throughout the solids. All the drainable liquid was collected in jar #6604. Analysis and sample archiving requirements were performed on Core 70, segment 1 subsamples in accordance with reference (1).

CORE 70, SEGMENT 2 (Riser 2)

Core 70, Segment 2 was sampled on 3/15/95, and received at the 222-S laboratories on 3/16/95. This segment was extruded on 3/28/95. Collected 259 gms of solid material and 59 gms of drainable liquid. Large crystalline solids were the first to extrude followed by about 4 to 5 inches of yellow sludge. Sludge material retained the shape of the sampler then tended to melt on the sampler tray due to the moisture content. Divided the sample into the crystalline lower half segment (jar # 6609) and the sludge upper half segment (jar # 6606). The drainable liquid was saved in jar # 6698. Analysis and sample archiving requirements were performed on Core 70, segment 2 subsamples in accordance with reference (1).

CORE 73, SEGMENT 1 (Riser 6)

Core 73, Segment 1 was sampled on 3/16/95, and received at the 222-S laboratories on 3/17/95. This segment was extruded on 3/30/95. Collected 17 gms of solid material and 142 gms of drainable liquid. Solids did not retain the shape of the sampler. Solid yellow sludge was mixed with large chunks of crystals. All the solids were collected in jar # 6675 and all the drainable liquids in jar # 6703. There was 4.31 gms of liner liquid collected which was saved in jar # 6752. This liquid was not analyzed. Analysis and sample archiving requirements were performed on Core 73, segment 1 sub samples in accordance with reference (1).

CORE 73, SEGMENT 2 (Riser 6)

Core 73, Segment 2 was sampled on 3/16/95, and received at the 222-S laboratories on 3/17/95. This segment was extruded on 3/30/95. Collected 132 gms of solid material and 117 gms of drainable liquid. Solids did not retain the shape of the sampler. Large crystalline solids were extruded near the end of extrusion. All the solids were collected in jar # 6705 and all the drainable liquids in jar # 6704. There was 2.88 gms of liner liquid collected which was saved in jar # 6753. This liquid was not analyzed. Analysis and sample archiving requirements were performed on Core 73, segment 2 subsamples in accordance with reference (1).

CORE 74, SEGMENT 1 (Riser 6)

Core 74, Segment 1 was sampled on 3/17/95, and received at the 222-S laboratories on 3/20/95. This segment was extruded on 3/30/95. Collected 111.35 gms of solid material and 159.63 gms of drainable liquid. Noticed black specks in the sludge sample. All the solids were collected in jar # 6680 and all the drainable liquids in jar # 6706. There was no liner liquid observed. No analysis was done on Core 74, segment 1 subsamples.

CORE 74, SEGMENT 2 (Riser 6)

Core 74, Segment 2 was sampled on 3/17/95, and received at the 222-S laboratories on 3/20/95. This segment was extruded on 3/30/95. Was able to extrude about half of the sample. The piston stuck inside the sampler about midway through the extrusion. Extruded 105 gms of yellow crystalline solid material (fine crushed ice consistency), saved in jar # 6677 and 88 gms of drainable liquid saved in jar # 6707. On 3/31/95, tried to extrude the remaining sample with the hydraulic extruder. Still could not move the piston. Collected the solid sample near the valve end with a spatula and saved in jar # 6678 as post extrusion solids. No analysis was done on Core 74, segment 2 samples.

ANALYTICAL RESULTS

Analytical results are presented in Tables 1 to 4, with the applicable notification limits shaded.

DSC (Energetics Content)

DSC analyses were performed under a nitrogen atmosphere using procedure LA-514-113, Rev. B-1. None of the samples exhibited any exotherms above the instrument detection limit, therefore no dry results appear on the analytical tables. All precision and accuracy requirements were met.

TGA (Moisture Content)

Weight percent water was performed under a nitrogen atmosphere using procedure LA-560-112, Rev. A-2. The results for Core 70, Segment 1, Upper half solids were less than the notification limit of 17 weight percent water. An immediate notification was made as per the reference below. The RPD values between the samples and their duplicates ranged from 0.33 to 14.3 %, and most of them met the TCP specified precision requirement of 10%. The Laboratory Measurement Control System (LMCS) control standard exhibited a recovery ranging from 97.50 to 99.58 percent, which was within the program's specified accuracy control limits of 90 to 110 percent.

Total Alpha Activity

The Total Alpha analyses were performed on the samples prepared by fusion using procedure LA-549-141, Rev. C-2. and analyses were performed using procedure LA-508-101, Rev. D-2. A sample, duplicate and spike were performed on the samples from Core 70, segments 1 and 2, for upper half and lower half solids, & Core 73, segment 1 , 2 solids.

None of the samples contained alpha activity in excess of the detection limits which ranged from less than 6.78E-04 to less than 3.79E-03 μCi/g. These detection limits were more than 1000 fold lower than the notification limit of 41 μCi/g.

Spike recovery was lower than normal for samples from core 70, segment 2 and from core 73 . This is most likely due to the presence of solids on the sample mount. Alpha reruns were requested and performed but did not demonstrate improved recoveries. No further work was performed due to the low alpha activity in the sample

REFERENCE Schreiber, R. D., 1995, WHC-SD-WM-TP-308, Revision OA, "*Tank 241-U-201 Tank Characterization Plan*, dated March 2, 1995.

SAMPLE DATA SUMMARY

45 Day Safety Screen Results for U-201
U-201

TABLE 1 - page 1

CORE NUMBER: 70
SEGMENT #: 1

SEGMENT PORTION: U Upper Half of Segment

Sample#	R	A#	Analyte	Unit	Action Limits Lower	Action Limits Upper	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S95T000540			% Water by TGA on Perkin Elmer	%	16.990	200.000	98.41	n/a	14.34	15.2	14.77	5.82	n/a	n/a	n/a
S95T000540			DSC Exotherm on Perkin Elmer	Joules/g	-1.000	481.050	103.3	n/a	0	0	0.000	n/a	n/a	n/a	n/a
S95T000541		F	Alpha of Digested Solid	uCi/g	1.000	41.050	79.05	<3.11e-03	< 3.08e-3	<3.79e-3	n/a	n/a	87.70	7.00e-03	500.0

L Lower Half of Segment: L Lower Half of Segment

Sample#	R	A#	Analyte	Unit	Action Limits Lower	Action Limits Upper	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S95T000536			% Water by TGA on Perkin Elmer	%	16.990	200.000	98.41	n/a	18.49	18.25	18.37	1.31	n/a	n/a	n/a
S95T000536			DSC Exotherm on Perkin Elmer	Joules/g	-1.000	481.050	103.3	n/a	0	0	0.000	n/a	n/a	n/a	n/a
S95T000537		F	Alpha of Digested Solid	uCi/g	1.000	41.050	79.05	<3.11e-03	< 3.11e-3	<3.11e-3	n/a	n/a	95.30	7.00e-03	500.0

=> Limit violated
=> Selected Limit

0)

45 Day Safety Screen Results for U-201 Drainable Liquid
U-201

TABLE 1 - page 2

CORE NUMBER: 70
SEGMENT #: 1

SEGMENT PORTION: Drainable Liquid

Sample#	R	A#	Analyte	Unit	Action Limits Lower	Action Limits Upper	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S95T000531			% Water by TGA on Perkin Elmer	%	16.990	200.000	97.50	n/a	70.50	69.46	69.98	1.49	n/a	n/a	n/a
S95T000531			DSC Exotherm on Perkin Elmer	Joules/g	-1.000	481.010	102.6	n/a	0	0	0.000	n/a	n/a	n/a	n/a

=> Limit violated
=> Selected Limit

45 Day Safety Screen Results for U-201
U-201

TABLE 2 - page 1

CORE NUMBER: 70
SEGMENT #: 2

SEGMENT PORTION: U Upper Half of Segment

Sample#	R	A#	Analyte	Unit	Action Limits Lower	Action Limits Upper	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S95T000619			% Water by TGA on Perkin Elmer	%	16.990	200.000	98.38	n/a	25.09	26.15	25.62	4.14	n/a	n/a	n/a
S95T000619			DSC Exotherm on Perkin Elmer	Joules/g	1.000	481.050	103.1	n/a	0	0	0.000	n/a	n/a	n/a	n/a
S95T000622		F	Alpha of Digested Solid	uCi/g	1.000	41.050	90.20	<8.39e-04	< 8.39e-4	<1.16e-3	n/a	n/a	52.30	2.00e-03	500.0

L Lower Half of Segment: L Lower Half of Segment

Sample#	R	A#	Analyte	Unit	Action Limits Lower	Action Limits Upper	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S95T000613			% Water by TGA on Perkin Elmer	%	16.990	200.000	98.38	n/a	30.58	31.51	31.05	3.00	n/a	n/a	n/a
S95T000613			DSC Exotherm on Perkin Elmer	Joules/g	1.000	481.050	103.1	n/a	0	0	0.000	n/a	n/a	n/a	n/a
S95T000615		F	Alpha of Digested Solid	uCi/g	1.000	41.050	90.20	<8.39e-04	<1.09e-3	<8.38e-4	n/a	n/a	63.80	2.00e-03	500.0

=> Limit violated
=> Selected Limit

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45 Day Safety Screen Results for U-201 Drainable Liquid
U-201

TABLE 2 - page 2

CORE NUMBER: 70
SEGMENT #: 2

SEGMENT PORTION: Drainable Liquid

Sample#	R	A#	Analyte	Unit	Action Limits Lower	Action Limits Upper	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S95T000625			% Water by TGA using Mettler	%	16.990	200.000	98.29	n/a	70.88	70.50	70.69	0.54	n/a	n/a	n/a
S95T000625			DSC Exotherm using Mettler	Joules/g	-1.000	481.010	104.4	n/a	0	0	0.000	n/a	n/a	n/a	n/a

=> Limit violated
=> Selected Limit

45 Day Safety Screen Results for U-201
U-201

TABLE 3 - page 1

CORE NUMBER: 73
SEGMENT #: 1

SEGMENT PORTION: W Whole Segment

Sample#	R	A#	Analyte	Unit	Action Limits Lower	Action Limits Upper	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S95T000548			% Water by TGA using Mettler	%	16.990	200.000	99.58	n/a	36.29	35.74	36.02	1.53	n/a	n/a	n/a
S95T000548			DSC Exotherm using Mettler	Joules/g	-1.000	481.050	95.61	n/a	0	0	0.000	n/a	n/a	n/a	n/a
S95T000549			Alpha of Digested Solid	uCi/g	-1.000	41.050	84.46	<6.67e-04	< 9.72e-4	<6.78e-4	n/a	n/a	69.30	2.00e-03	500.0

=> Limit violated
=> Selected Limit

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45 Day Safety Screen Results for U-201 Drainable Liquid
U-201

TABLE 3 - page 2

CORE NUMBER: 73
SEGMENT #: 1

SEGMENT PORTION: Drainable Liquid

Sample#	R	A#	Analyte	Unit	Action Limits Lower	Action Limits Upper	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S95T000544			% Water by TGA on Perkin Elmer	%	16.990	200.000	97.50	n/a	70.54	70.31	70.43	0.33	n/a	n/a	n/a
S95T000544			DSC Exotherm on Perkin Elmer	Joules/g	-1.000	481.010	102.6	n/a	0	0	0.000	n/a	n/a	n/a	n/a

=> Limit violated
=> Selected Limit

45 Day Safety Screen Results for U-201
U-201

CORE NUMBER: 73
SEGMENT #: 2

TABLE 4 - page 1

SEGMENT PORTION: W Whole Segment

Sample#	R	A#	Analyte	Unit	Action Limits Lower	Action Limits Upper	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S95T000552			% Water by TGA using Mettler	%	16.990	200.000	99.58	n/a	38.99	33.80	36.39	14.3	n/a	n/a	n/a
S95T000552			DSC Exotherm using Mettler	Joules/g	1.000	481.050	95.61	n/a	0	0	0.000	n/a	n/a	n/a	n/a
S95T000553		F	Alpha of Digested Solid	uCi/g	1.000	41.050	84.46	<6.67e-04	< 7.39e-4	<9.00e-4	n/a	n/a	56.60	1.00e-03	500.0

=> Limit violated
=> Selected Limit

45 Day Safety Screen Results for U-201 Drainable Liquid
U-201

TABLE 4 - page 2

CORE NUMBER: 73
SEGMENT #: 2

SEGMENT PORTION: Drainable Liquid

Sample#	R	A#	Analyte	Unit	Action Limits Lower	Action Limits Upper	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S95T000556			% Water by TGA on Perkin Elmer	%	16.990	200.000	98.41	n/a	69.88	70.26	70.07	0.54	n/a	n/a	n/a
S95T000556			DSC Exotherm on Perkin Elmer	Joules/g	-1.000	481.010	102.8	n/a	0	0	0.000	n/a	n/a	n/a	n/a

=> Limit violated
=> Selected Limit

UNDIGESTED SAMPLE ANALYSES - DIRECT

worklistrpt Version 2.0 02/21/95
04/27/95 06:35

LABCORE Data Entry Template for Worklist# 939

Analyst: SMF **Instrument:** DSC01 **Book #** 12N14-A

Method: LA-514-114 Rev/Mod B-00 GMF 4/28/95

Worklist Comment: Please run U-201 DSC under N2. bdv

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				DSC-03	SOLID	28.45	29.40	N/A	Joules/g
95000029	U-201	2	SAMPLE	S95T000536	0		DSC-03	SOLID	N/A	Ø		Joules/g
95000029	U-201	3	DUP	S95T000536	0		DSC-03	SOLID	Ø	Ø	N/A	Joules/g
95000029	U-201	4	SAMPLE	S95T000540	0		DSC-03	SOLID	N/A	Ø		Joules/g
95000029	U-201	5	DUP	S95T000540	0		DSC-03	SOLID	Ø	Ø	N/A	Joules/g

Final page for worklist # 939

Data entered and verified by

See attached for signatures
Analyst Signature **Date**

Blandina Valenzuela
Analyst Signature **Date**

Data Entry Comments: S95T000536 produced two endotherms one at 121.09°C 4/27/95 BDV with a delta H of 582.33 and the second at 286°C ~~286~~ 4/27/95 BDV with a delta H of 467.3 J/g. S95T000540 produced two endotherms one at 98.5°C 4/27/95 BDV with a delta H of 369.1 J/g and the second at 296.4°C ~~296.4~~ 4/27/95 BDV with a delta H of 932.71 J/g

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

LABCORE Data Entry Template for Worklist# 939

Analyst: SMF **Instrument:** DSC01 **Book #** 12N14-A

Method: ~~LA-514-113 Rev/Mod~~ LA-514-114/B-0 SMF 4-26-95 SMF 4/28/95

Worklist Comment: Please run U-201 DSC under N2. bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD				DSC-01	SOLID			N/A	Joules/g
95000029	U-201	2 SAMPLE	S95T000536	0		DSC-01	SOLID	N/A			Joules/g
95000029	U-201	3 DUP	S95T000536	0		DSC-01	SOLID			N/A	Joules/g
95000029	U-201	4 SAMPLE	S95T000540	0		DSC-01	SOLID	N/A			Joules/g
95000029	U-201	5 DUP	S95T000540	0		DSC-01	SOLID			N/A	Joules/g

Final page for worklist # 939

Susie M Fulton 4-26-95

Analyst Signature **Date**

Analyst Signature **Date**

Data Entry Comments:

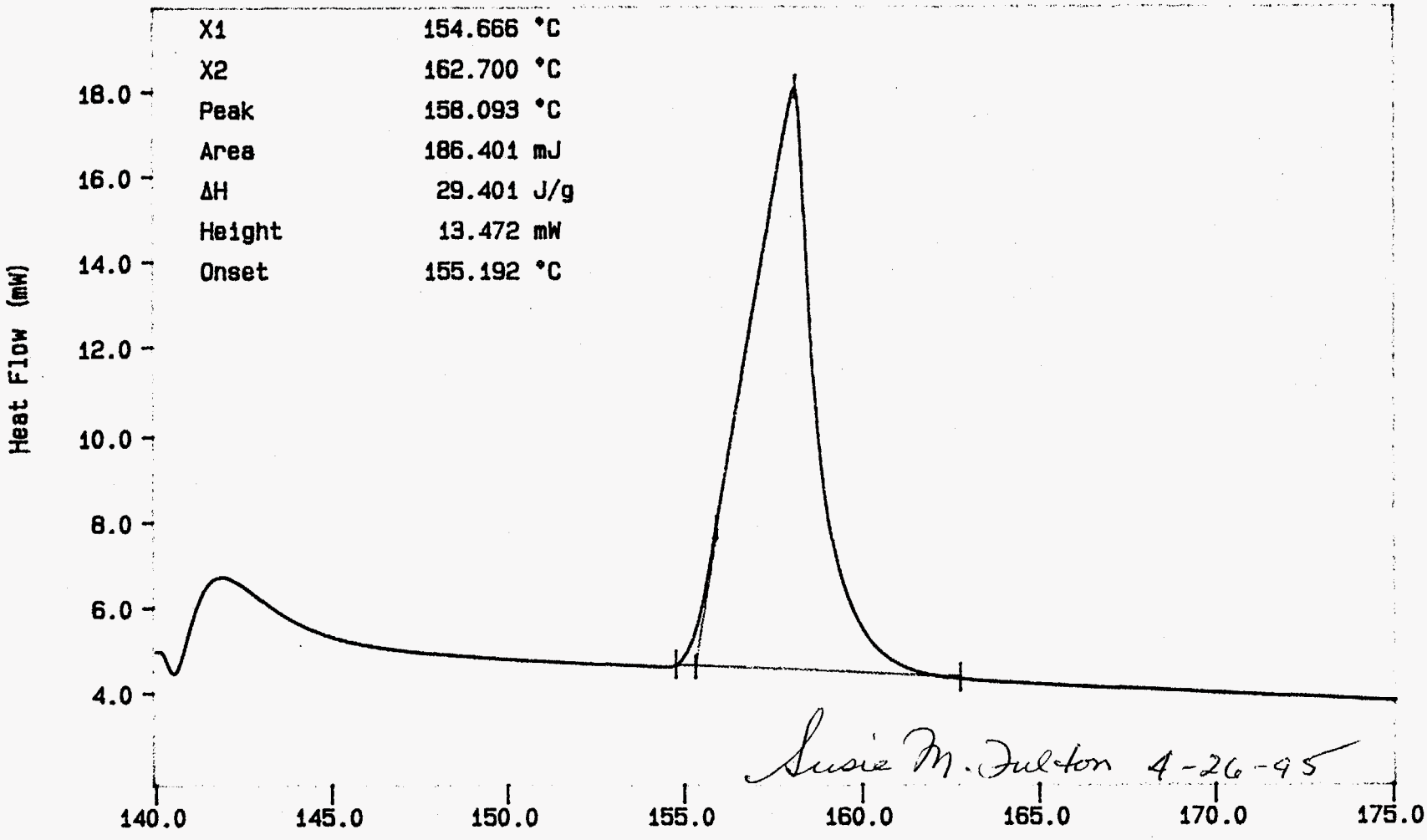
S95T000536 - Yellow sludge w/large white opaque crystals and small black particles

S95T000540 - Yellow caky (like cooked egg yolk) material w/small crystals.

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

Curve 1: DSC
File info: IND042601 Wed Apr 26 07:33:22 1995
Sample Weight: 6.340 mg
Indium at 10C/min

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 17 TO 21.



Susie M. Fulton 4-26-95

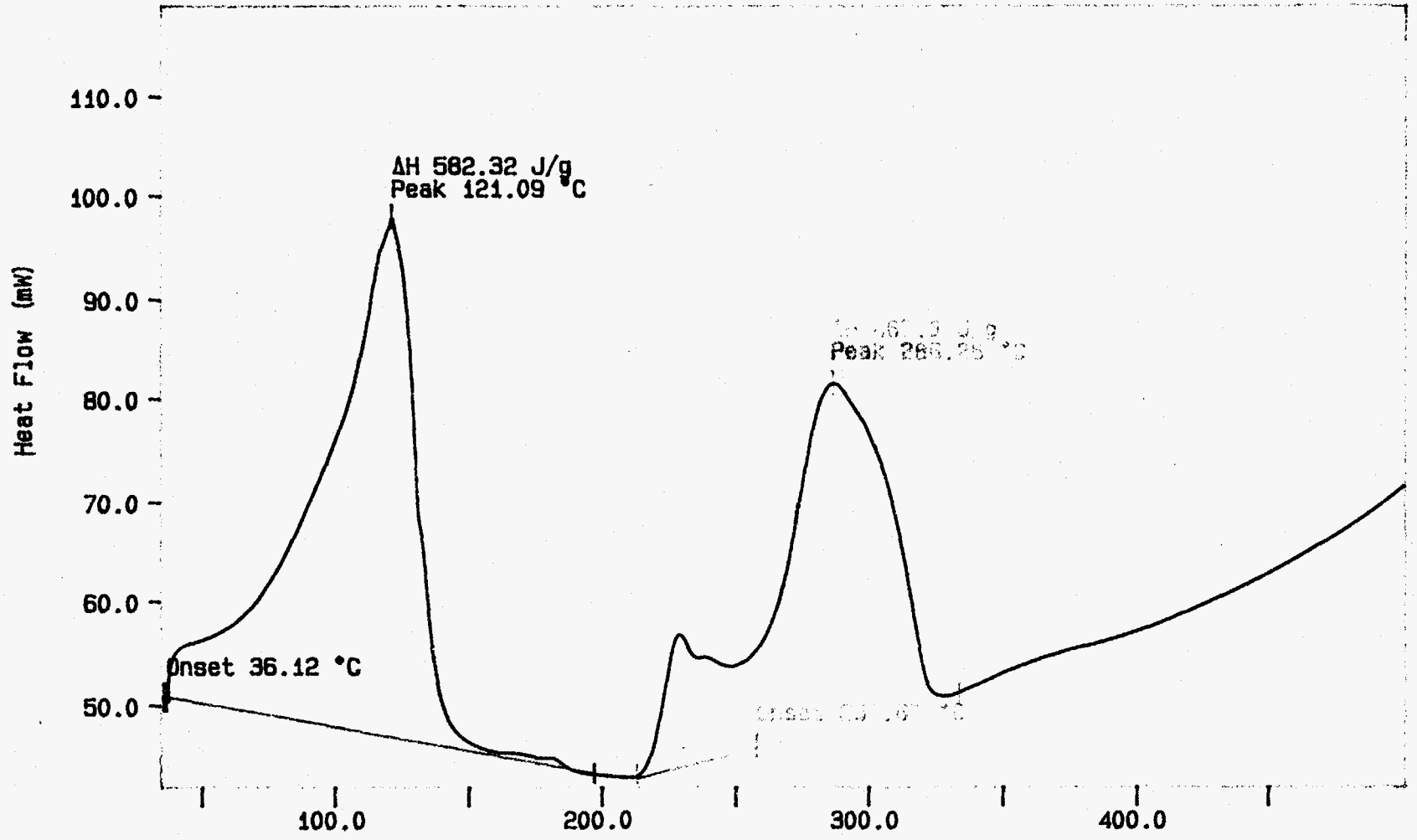
N2 exotherm down
TEMP1: 140.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 175.0 C

SM FULTON
Westinghouse Hanford Co.
222-S Lab
Wed Apr 26 07:37:04 1995

17

WHC-SD-WM-DP-107, REV.0

Curve 1: DSC
File info: qsav2 Wed Apr 26 09:17:51 1995
Sample Weight: 22.630 mg
S95T000536, 10C/min

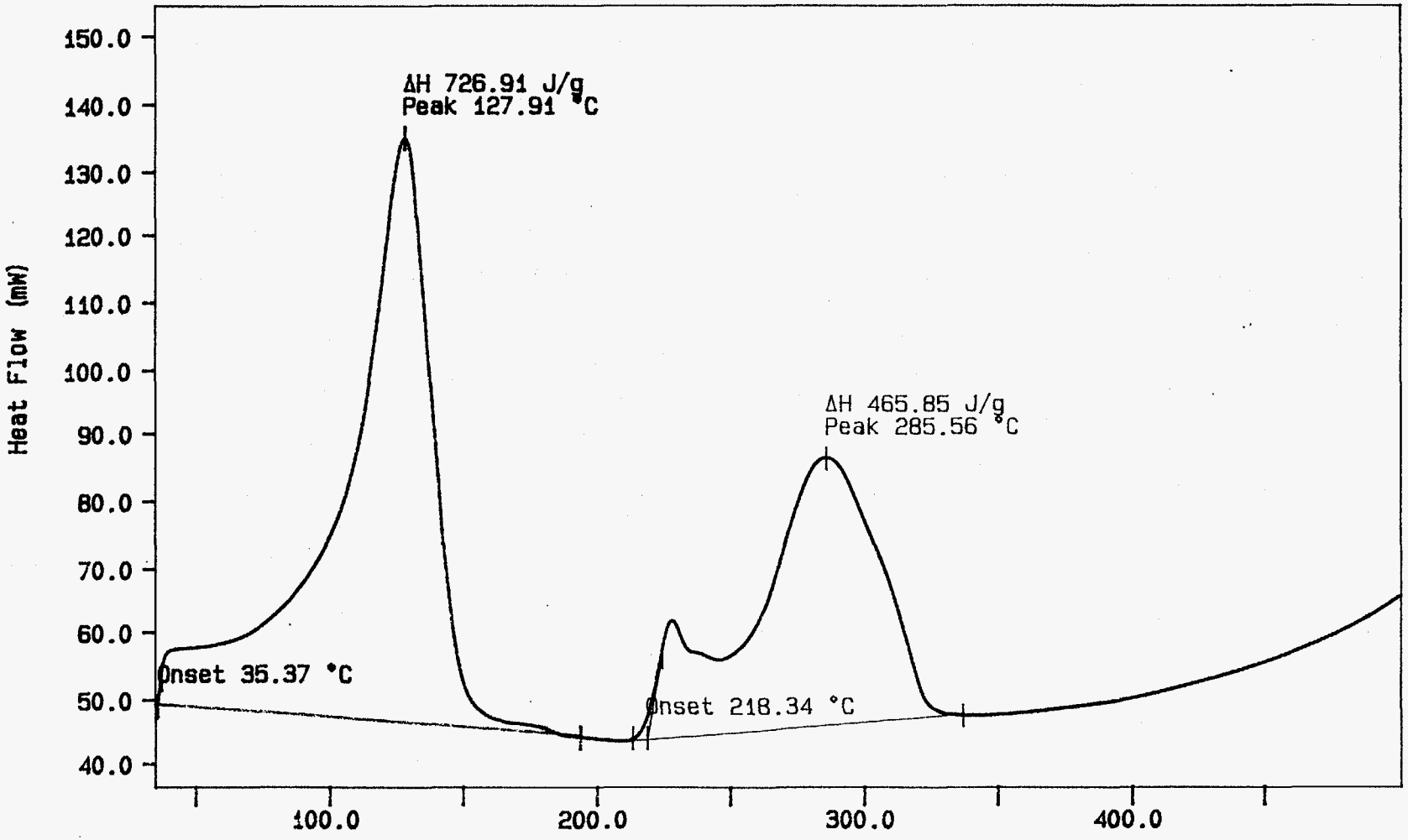


exotherm down, nitrogen purge gas

TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 500.0 C

SM Fulton
Westinghouse Hanford Co.
222-S Lab
Wed Apr 26 09:34:05 1995

Curve 1: DSC
File info: SAM042602 Wed Apr 26 10:25:18 1995
Sample Weight: 28.780 mg
S95T000536(DUP). 10C/min

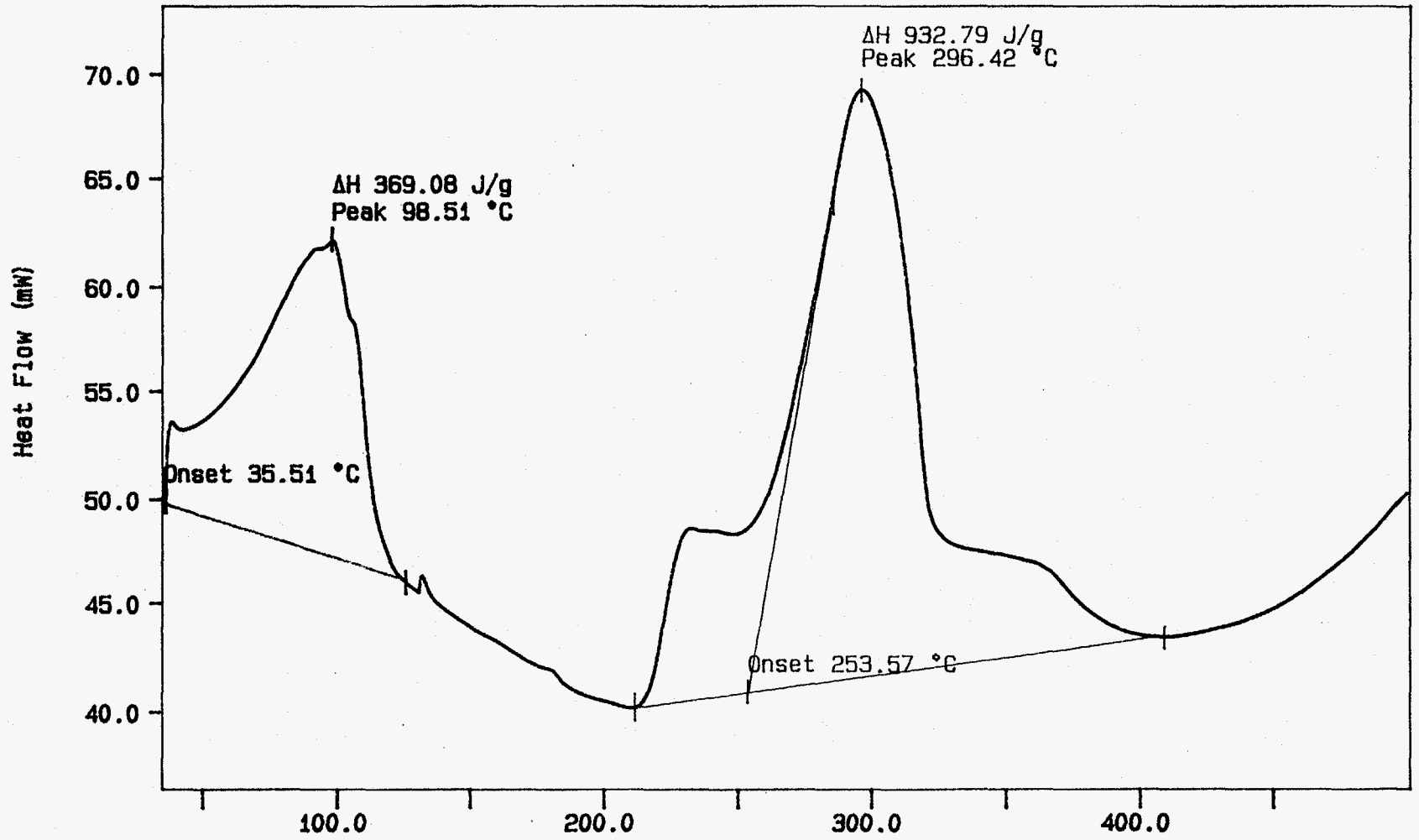


TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 500.0 C

SM Fulton
Westinghouse Hanford Co.
222-S Lab
Wed Apr 26 11:29:10 1995

WHC-SD-WM-DP-107, REV.0

Curve 1: DSC
File info: SAM042603 Wed Apr 26 11:48:52 1995
Sample Weight: 11.340 mg
S95T000540, 10C/min

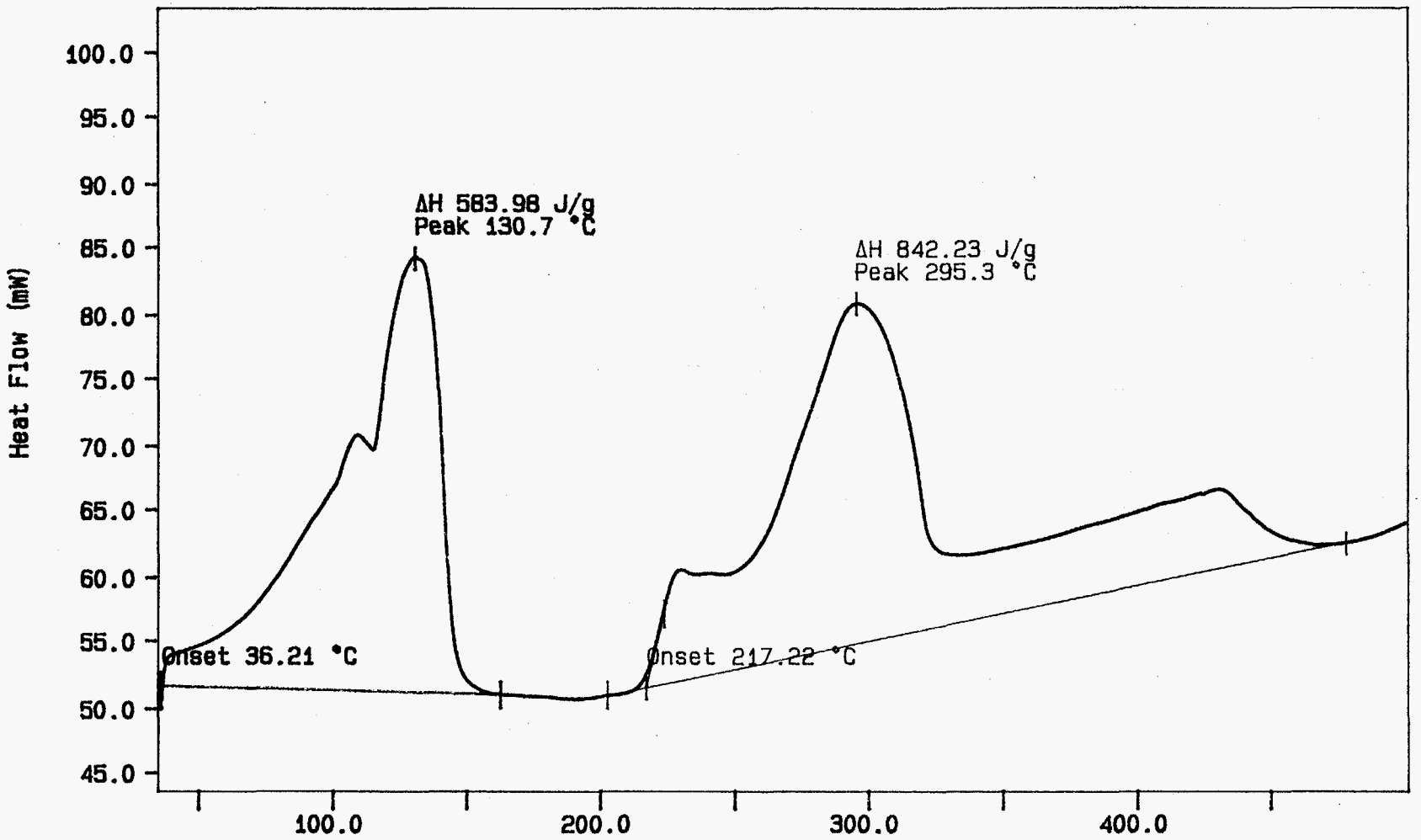


SM Fulton
Westinghouse Hanford Co.
222-S Lab
Wed Apr 26 11:53:01 1995

20

WHC-SD-WM-DP-107, REV.0

Curve 1: DSC
File info: SAM040604 Wed Apr 26 12:45:21 1995
Sample Weight: 15.380 mg
S95T000540 (DUP). 10C/min



TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 500.0 C

SM Fulton
Westinghouse Hanford Co.
222-S Lab
Wed Apr 26 13:17:13 1995

LABCORE Data Entry Template for Worklist# 940

Analyst: SMF **Instrument:** DSC01 **Book #** 12 N14-A

Method: LA-514-113 Rev/Mod B-1

Worklist Comment: Please run U-201 DSC under N2. bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD				DSC-01	SOLID	28.45	27.2	N/A	Joules/g
95000033	U-201	2 SAMPLE	S95T000548	0		DSC-01	SOLID	N/A	Ø		Joules/g
95000033	U-201	3 DUP	S95T000548	0		DSC-01	SOLID	Ø	Ø	N/A	Joules/g
95000033	U-201	4 SAMPLE	S95T000552	0		DSC-01	SOLID	N/A	Ø		Joules/g
95000033	U-201	5 DUP	S95T000552	0		DSC-01	SOLID	Ø	Ø	N/A	Joules/g

Final page for worklist # 940

Susie M. Dalton 4-26-95
Analyst Signature **Date**

Data entered and verified by
Blandina Valenzuela
Analyst Signature **Date**

S95T000548 produced two endotherms one at 145.4°C with a delta H of 1178.2 J/g and the second at 287.8°C with a delta H of 215.3 J/g.

S95T000552 produced two endotherms one at 139.3°C with a delta H of 1066.5 J/g, second at 289.8°C with a delta H of 195.1 J/g

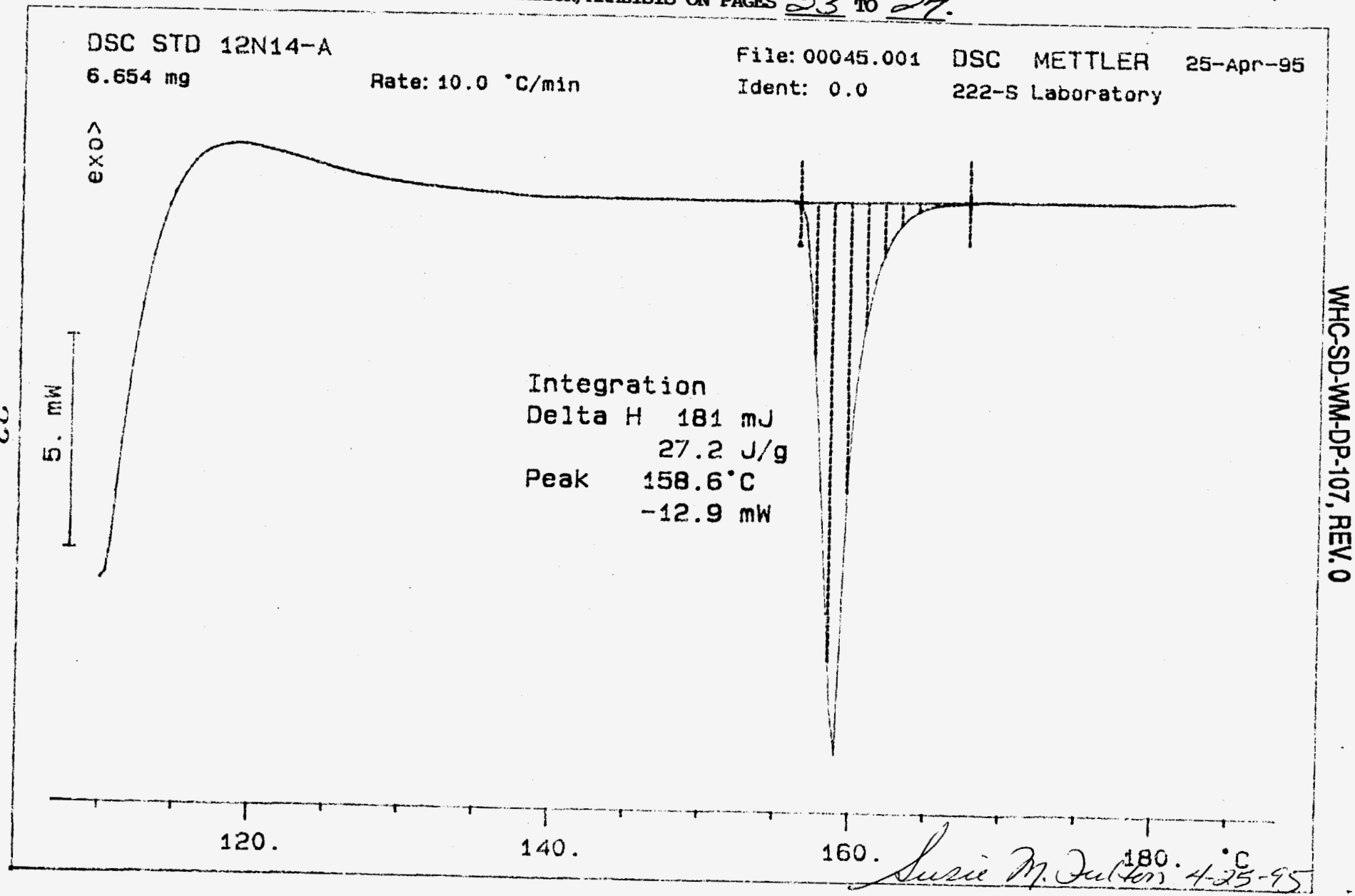
Data Entry Comments:

S95T000548 - light yellow sludge w/a thin clear film and med. opaque white crystals

S95T000552 - dull yellow sludge w/ large crystals

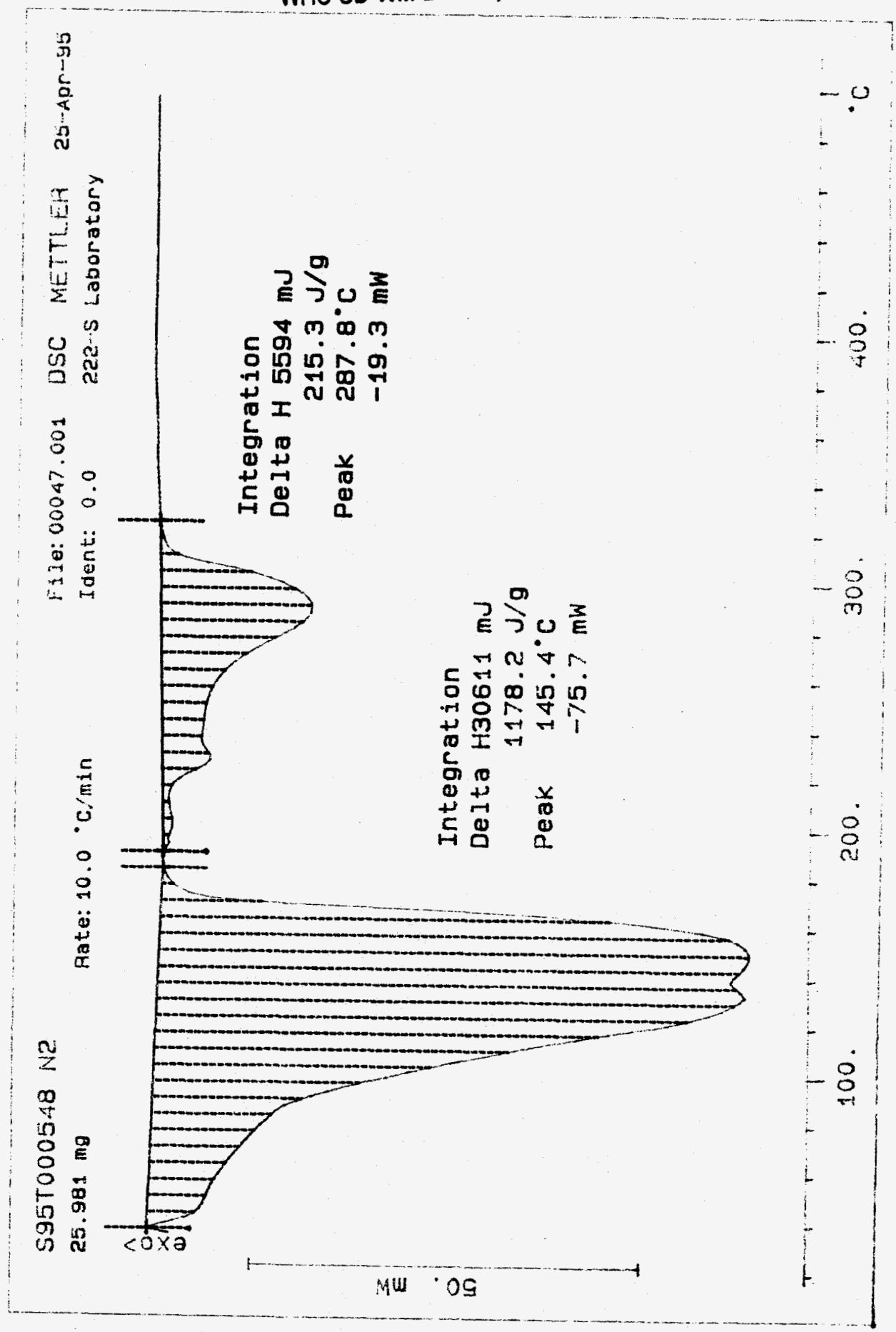
Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

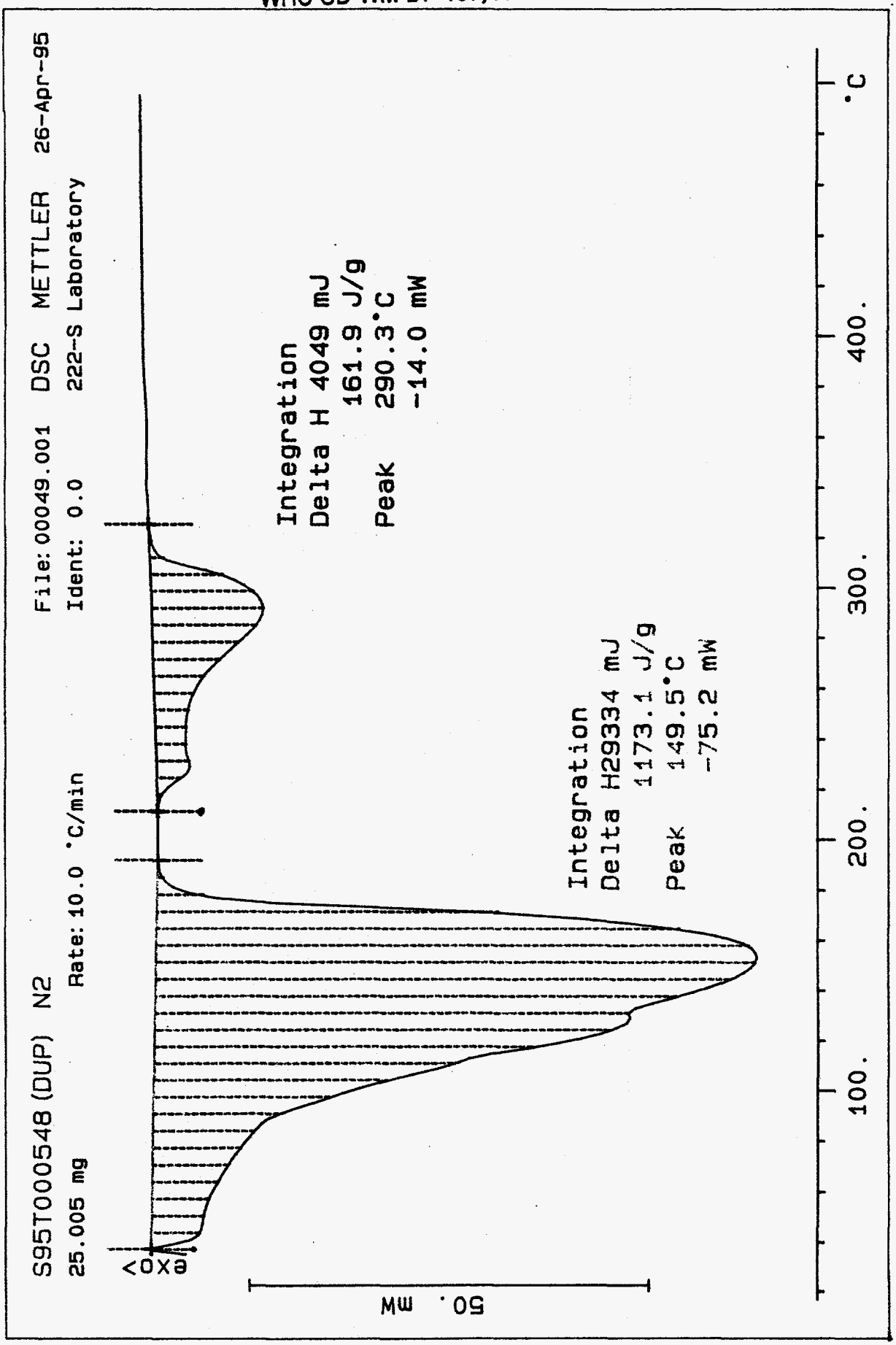
SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 23 TO 27.

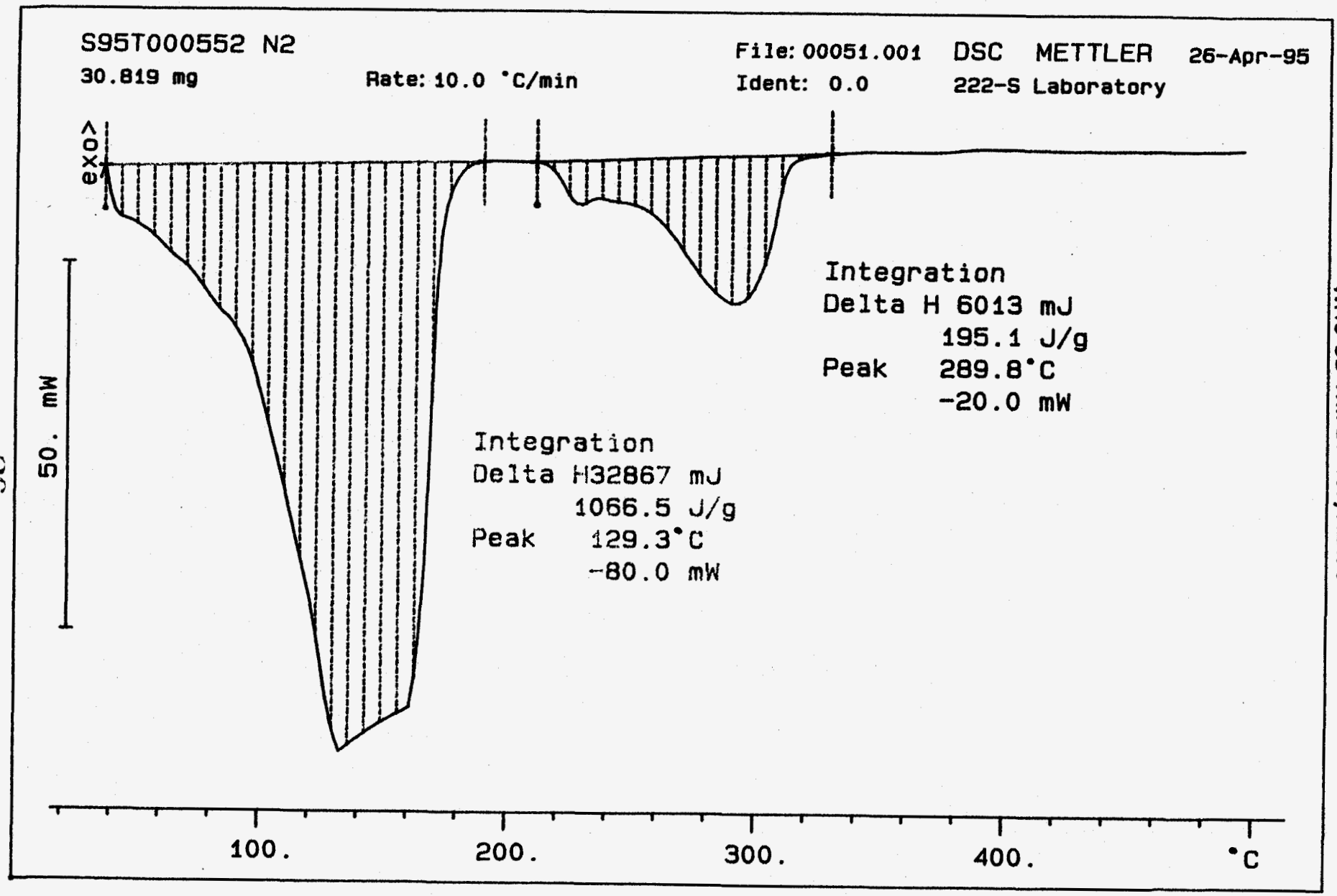


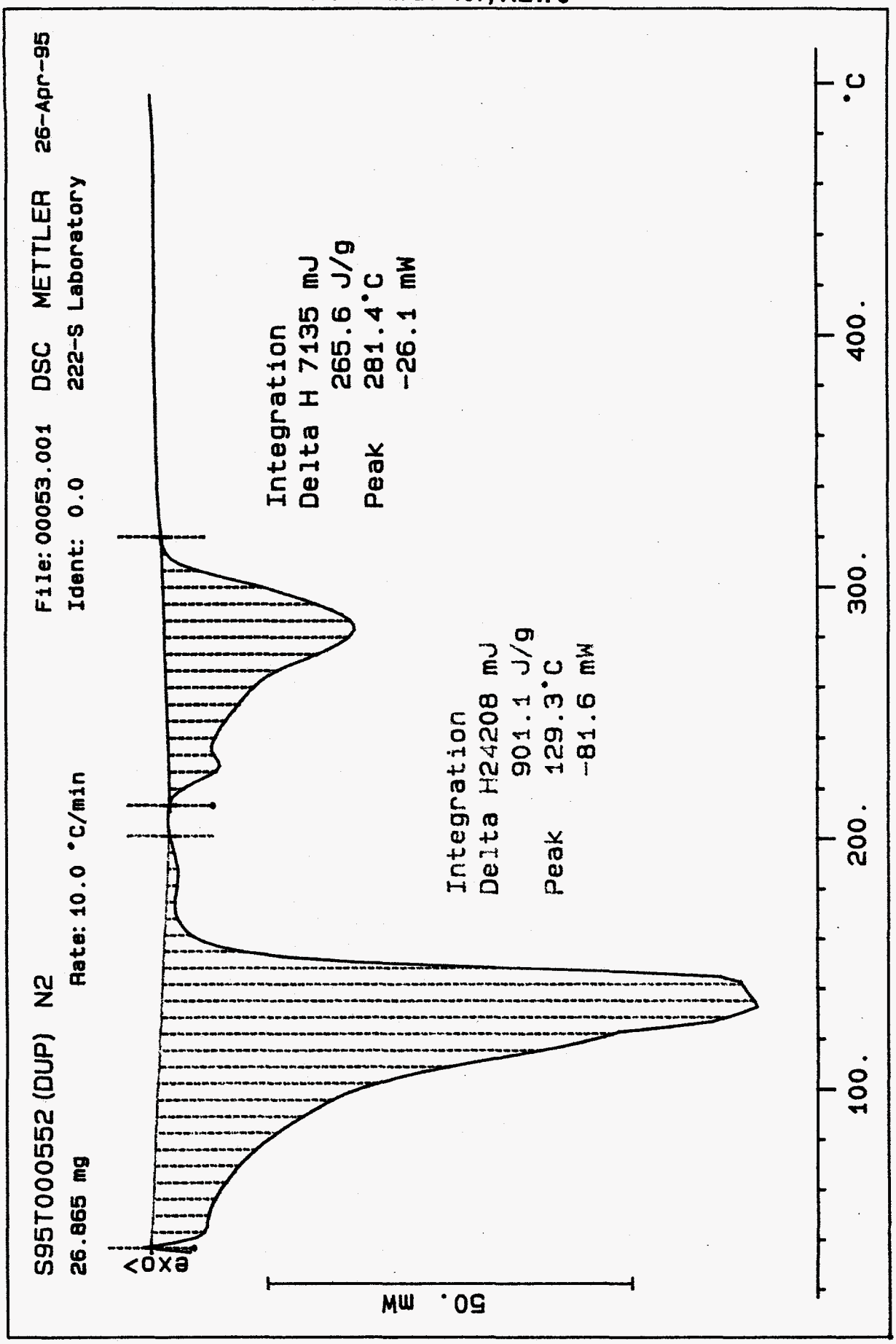
Susie M. Sutton 4-25-95

BEST AVAILABLE COPY








S95T000552 (DUP) N2
26.865 mg
Rate: 10.0 °C/min
File: 00053.001 DSC METTLER 26-Apr-95
Ident: 0.0 222-S Laboratory
Integration
Delta H 7135 mJ
265.6 J/g
Peak 281.4°C
-26.1 mW
Integration
Delta H24208 mJ
901.1 J/g
Peak 129.3°C
-81.6 mW
exo>
50. mW
100.
200.
300.
400.
°C

LABCORE Data Entry Template for Worklist# 942

Analyst: SMF **Instrument:** DSC01 **Book #** 12N 14-A

Method: LA-514-114 Rev/Mod B-0

Worklist Comment: Please run U-201 DSC under N2. bdv

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				DSC-03	LIQUID	28.45	29.18	N/A	Joules/g
95000029	U-201	2	SAMPLE	S95T000531	0		DSC-03	LIQUID	N/A	Ø		Joules/g
95000029	U-201	3	DUP	S95T000531	0		DSC-03	LIQUID	Ø	Ø	N/A	Joules/g
95000033	U-201	4	SAMPLE	S95T000544	0		DSC-03	LIQUID	N/A	Ø		Joules/g
95000033	U-201	5	DUP	S95T000544	0		DSC-03	LIQUID	Ø	Ø	N/A	Joules/g

Final page for worklist # 942

See attached for signatures
Analyst Signature **Date**

Analyst Signature **Date** 4-27-95

Teresa Diaz 4-27-95

See second page for additional comments.

Data Entry Comments: S95T000531 produced two endotherms one at 101.6°C with a delta H of 1571.52 J/g and the second at ~~227.0~~ 4/27/95 218.8°C with a delta H of 14.64 J/g.

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

LABCORE Data Entry Template for Worklist# 942

Analyst: SMF **Instrument:** DSC01 **Book #** 12N14-A

Method: ~~LA-514-113 Rev/Mod~~ SMF 4-27-95 LA-514-114/B-0

Worklist Comment: Please run U-201 DSC under N2. bdv

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				DSC-01	LIQUID			N/A	Joules/g
95000029	U-201	2	SAMPLE	S95T000531	0		DSC-01	LIQUID	N/A			Joules/g
95000029	U-201	3	DUP	S95T000531	0		DSC-01	LIQUID			N/A	Joules/g
95000033	U-201	4	SAMPLE	S95T000544	0		DSC-01	LIQUID	N/A			Joules/g
95000033	U-201	5	DUP	S95T000544	0		DSC-01	LIQUID			N/A	Joules/g

Final page for worklist # 942

Susie M. Dalton 4-27-95
Analyst Signature **Date**

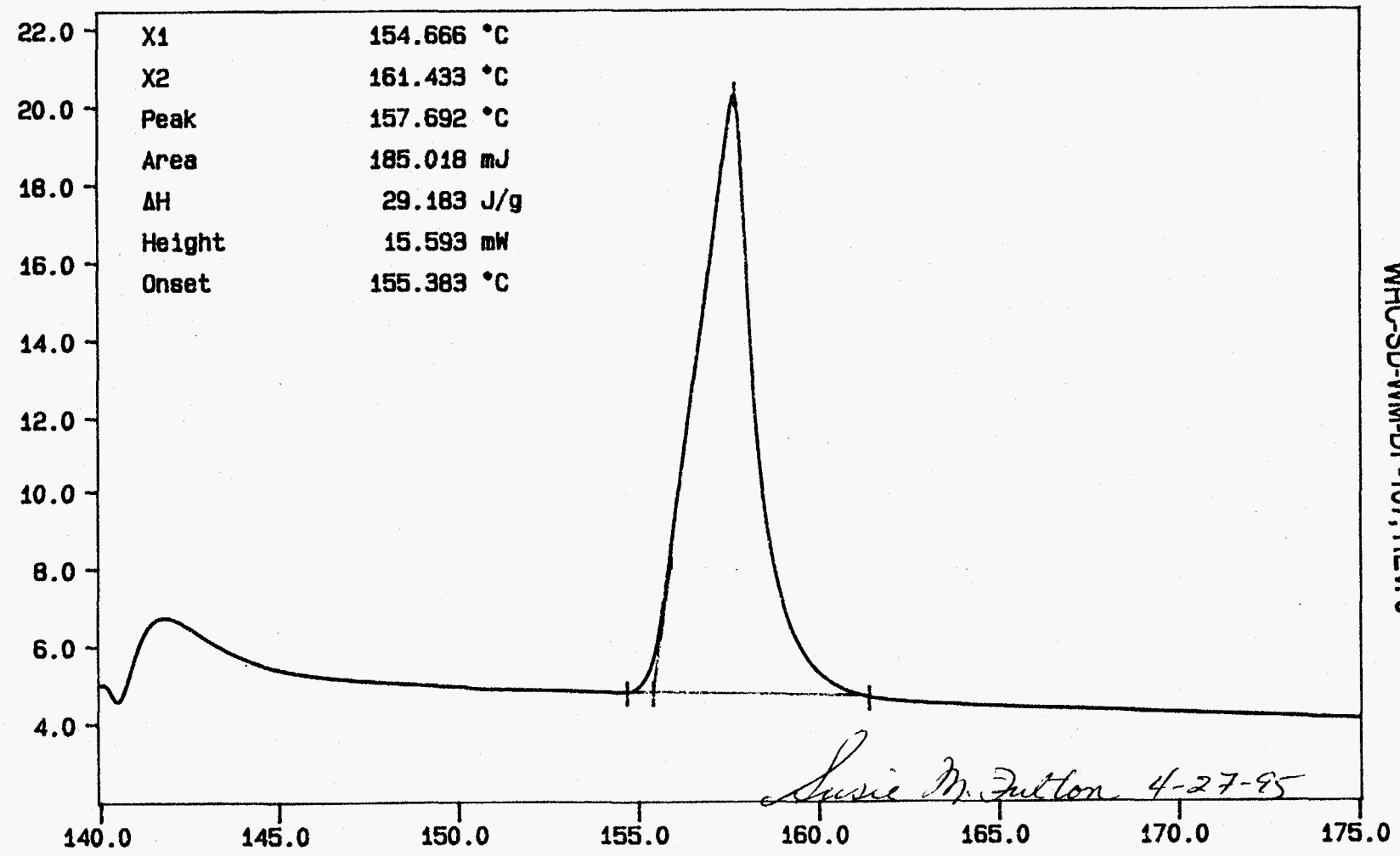
Analyst Signature **Date**

Data Entry Comments:
S95T000531 - Bright yellow liquid w/very thin layer of sediment
S95T000544 - Bright yellow liquid

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

Curve 1: DSC
File info: IND042701 Thu Apr 27 08:30:34 1995
Sample Weight: 6.340 mg
Indium at 10C/min

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 30 TO 35.



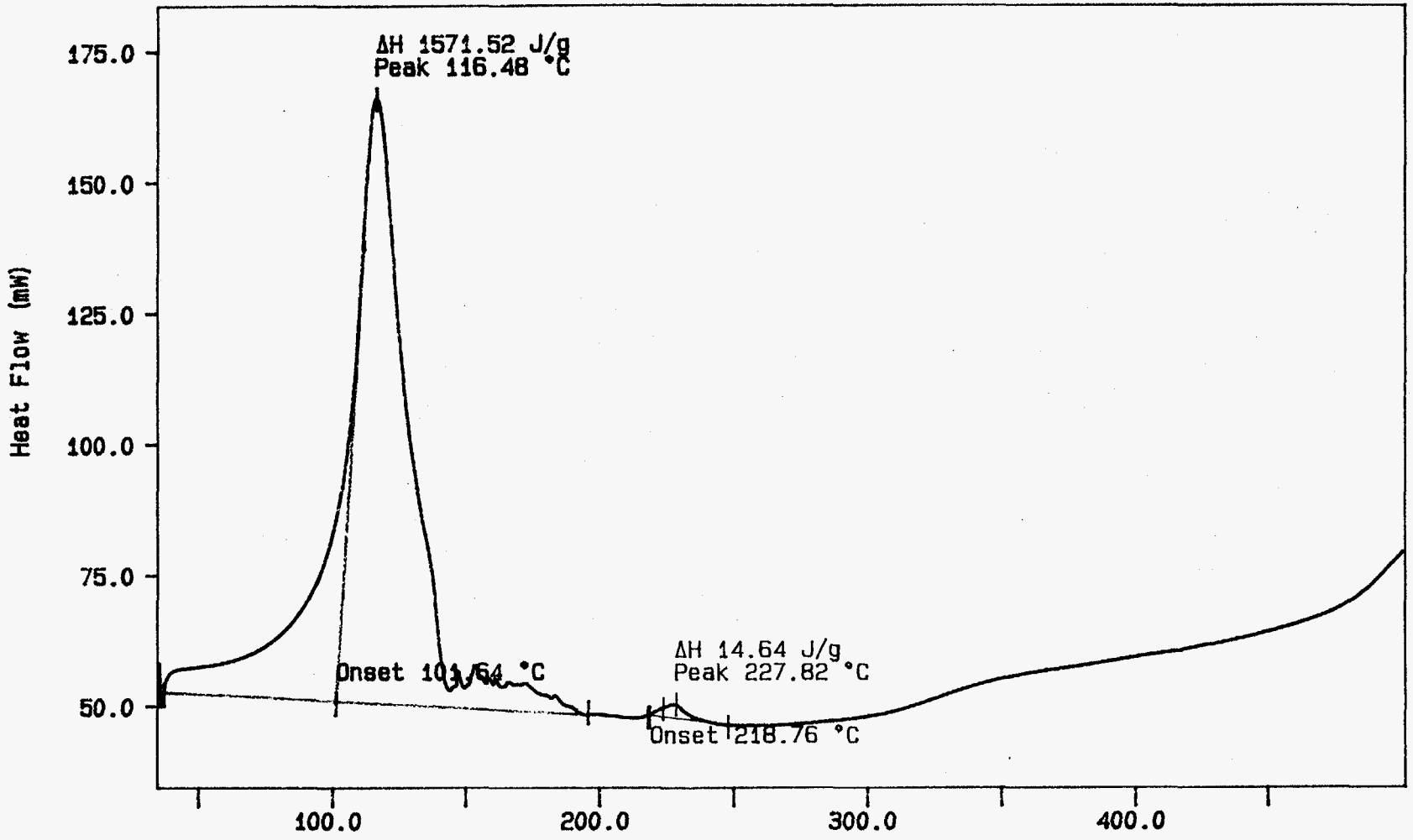
Susie M. Fulton 4-27-95

N2 exotherm down
TEMP1: 140.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 178.0 C

SM FULTON
Westinghouse Hanford Co.
222-S Lab
Thu Apr 27 08:32:39 1995

Curve 1: DSC
File info: SAM042701 Thu Apr 27 09:38:15 1995
Sample Weight: 13.360 mg
S95T000531, 10C/min

BEST AVAILABLE COPY

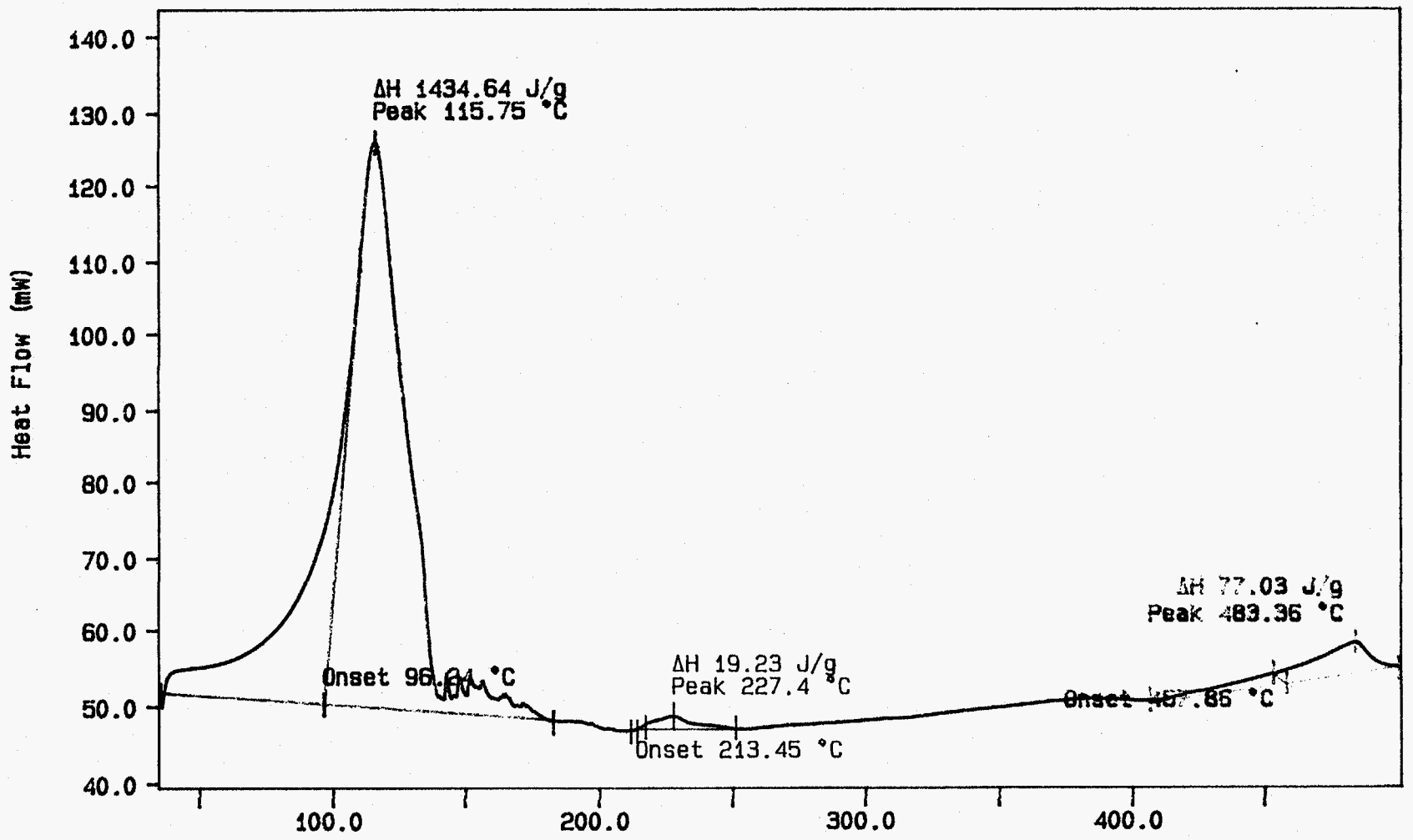


SM Fulton
Westinghouse Hanford Co.
222-S Lab
Thu Apr 27 13:32:59 1995

WHC-SD-WM-DP-107, REV.0

Curve 1: DSC
File info: SAM042702 Thu Apr 27 10:59:20 1995
Sample Weight: 10.340 mg
S95T000531(DUP), 10C/min

BEST AVAILABLE COPY



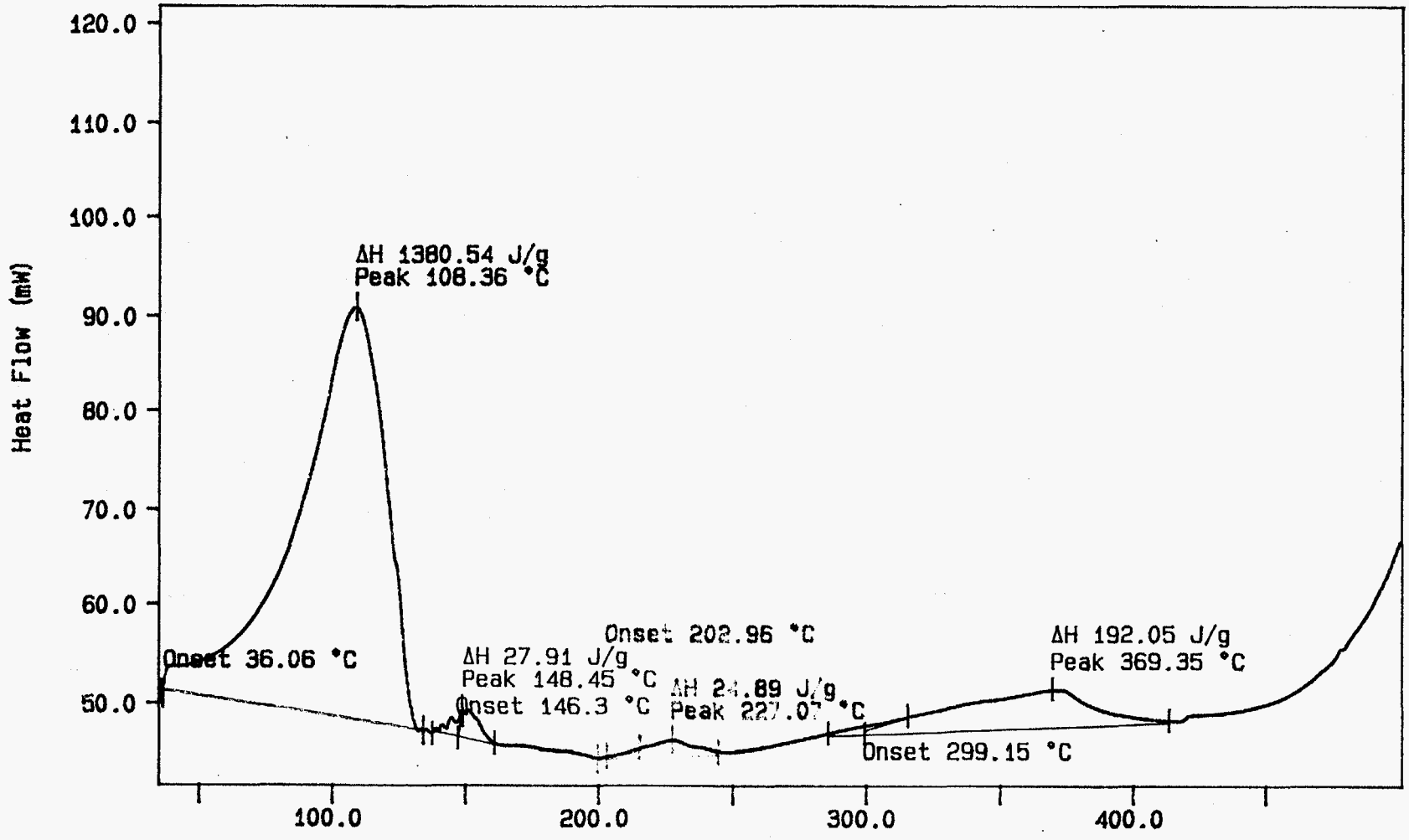
exotherm down, nitrogen purge gas
Temperature (°C)

TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 600.0 C

SM Fulton
Westinghouse Hanford Co.
222-S Lab
Thu Apr 27 13:26:10 1995

Curve 1: DSC
File info: SAM042703 Thu Apr 27 12:05:00 1995
Sample Weight: 7.110 mg
S95T000544, 10C/min

BEST AVAILABLE COPY



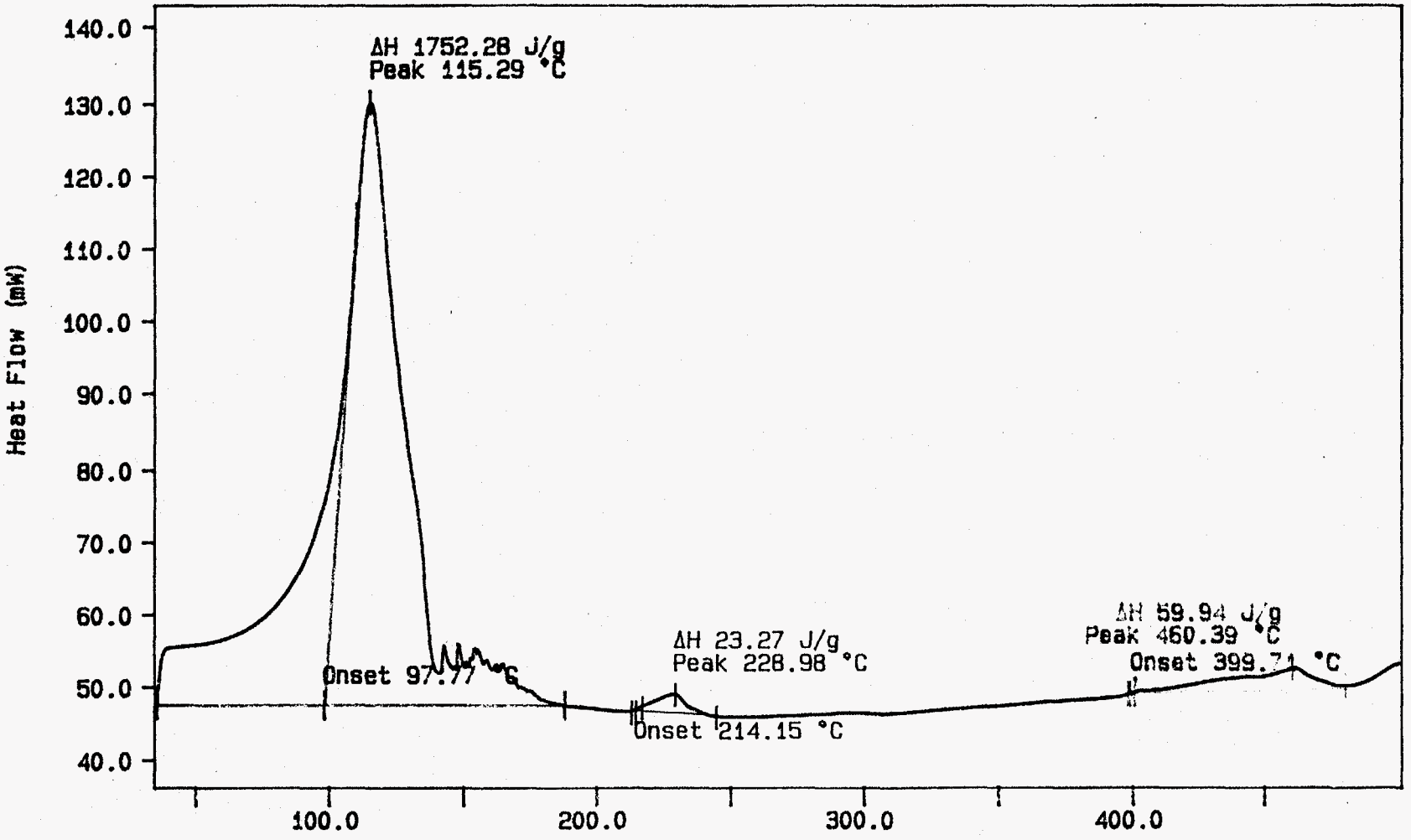
exotherm down, nitrogen purge gas

TEMP1: 30.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 600.0 C

SM Fulton
Westinghouse Hanford Co.
222-S Lab
Thu Apr 27 16:40:54 1995

Curve 1: DSC
File info: SAM042704 Thu Apr 27 14:04:09 1995
Sample Weight: 9.920 mg
S95T000544(DUP), 10C/min

BEST AVAILABLE COPY



exotherm down, nitrogen purge gas

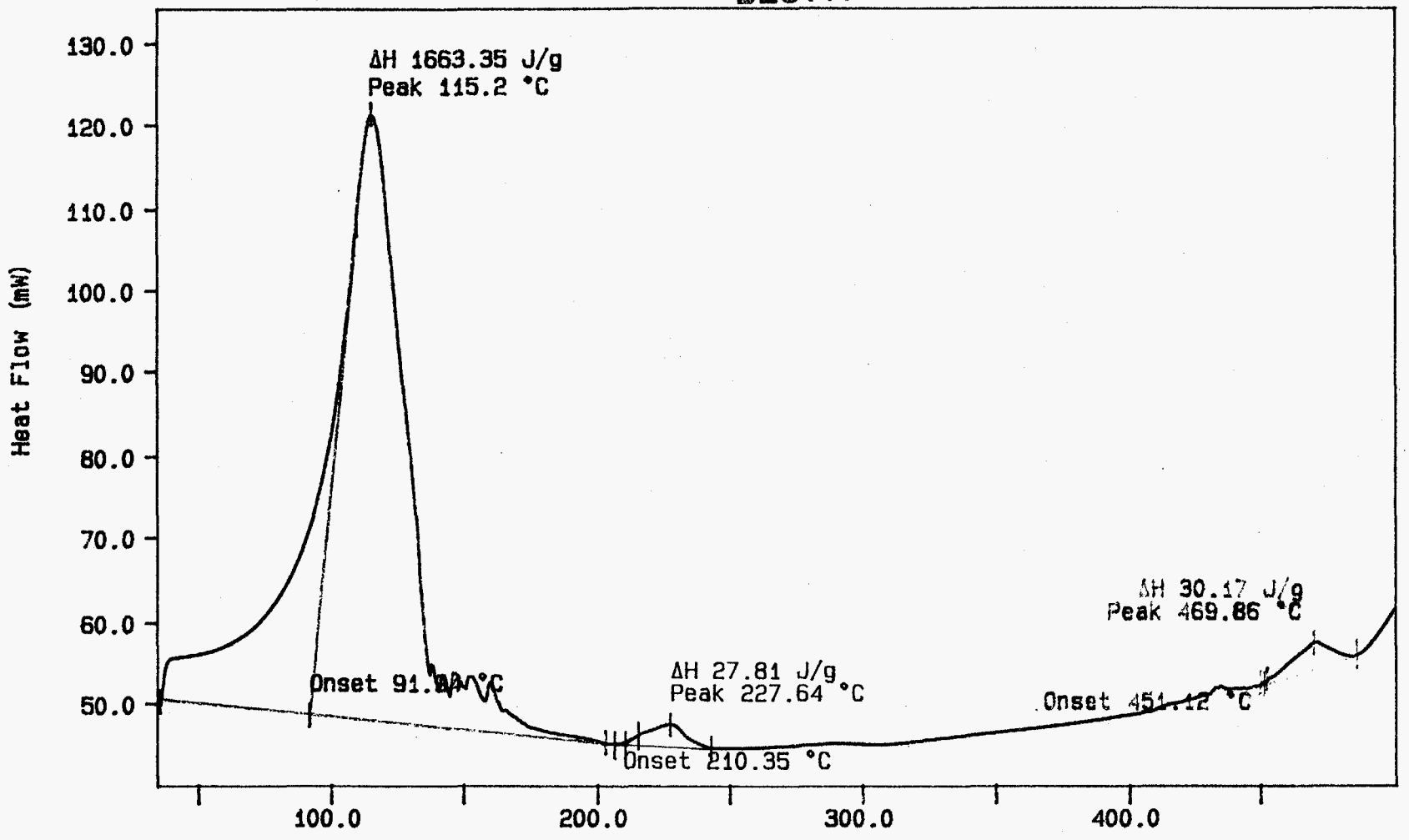
Temperature (°C)

TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 500.0 C

SM Fulton
Westinghouse Hanford Co.
222-S Lab
Thu Apr 27 16:49:26 1995

Curve 1: DSC
File info: SAM042705 Thu Apr 27 15:30:29 1995
Sample Weight: 9.920 mg
S95T000544(DUP2). 10C/min

BEST AVAILABLE COPY



exotherm down, nitrogen purge gas

Temperature (°C)

TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 500.0 C

SM Fulton
Westinghouse Hanford Co.
222-S Lab
Thu Apr 27 16:55:57 1995

LABCORE Data Entry Template for Worklist# 943

Analyst: SMF **Instrument:** DSC01 **Book #** 12N14-A

Method: LA-514-114 Rev/Mod B-00 SMF 4/28/95

Worklist Comment: Please run U-201 DSC under N2. bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD				DSC-03	LIQUID	28.45	29.24	N/A	Joules/g
95000033	U-201	2 SAMPLE	S95T000556	0		DSC-03	LIQUID	N/A	Ø		Joules/g
95000033	U-201	3 DUP	S95T000556	0		DSC-03	LIQUID	Ø	Ø	N/A	Joules/g

Final page for worklist # 943

See attached for signatures

Analyst Signature **Date**

Analyst Signature **Date**

Data entered and verified by Blandina Valenzuela

Data Entry Comments: S95T000556 produced two endotherms one at 115°C with a delta H of 1670.9 J/g and the second at 227.7 °C with a delta H of ~~23.6~~ 23.7 J/g. 4/27/95 BDV

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

LABCORE Data Entry Template for Worklist# 943

Analyst: SMF **Instrument:** DSC01 _____ **Book #** 12N14-A

Method: ~~LA-514-113 Rev/Mod~~ LA-514-114/IB-00 gMF 4/28/95
SMF 5-26-95

Worklist Comment: Please run U-201 DSC under N2. bdv

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				DSC-01	LIQUID	_____	_____	N/A	Joules/g
95000033	U-201	2	SAMPLE	S95T000556	0		DSC-01	LIQUID	N/A	_____	_____	Joules/g
95000033	U-201	3	DUP	S95T000556	0		DSC-01	LIQUID	_____	_____	N/A	Joules/g

Final page for worklist # 943

Susie M. Sutton 4-26-95
Analyst Signature **Date**

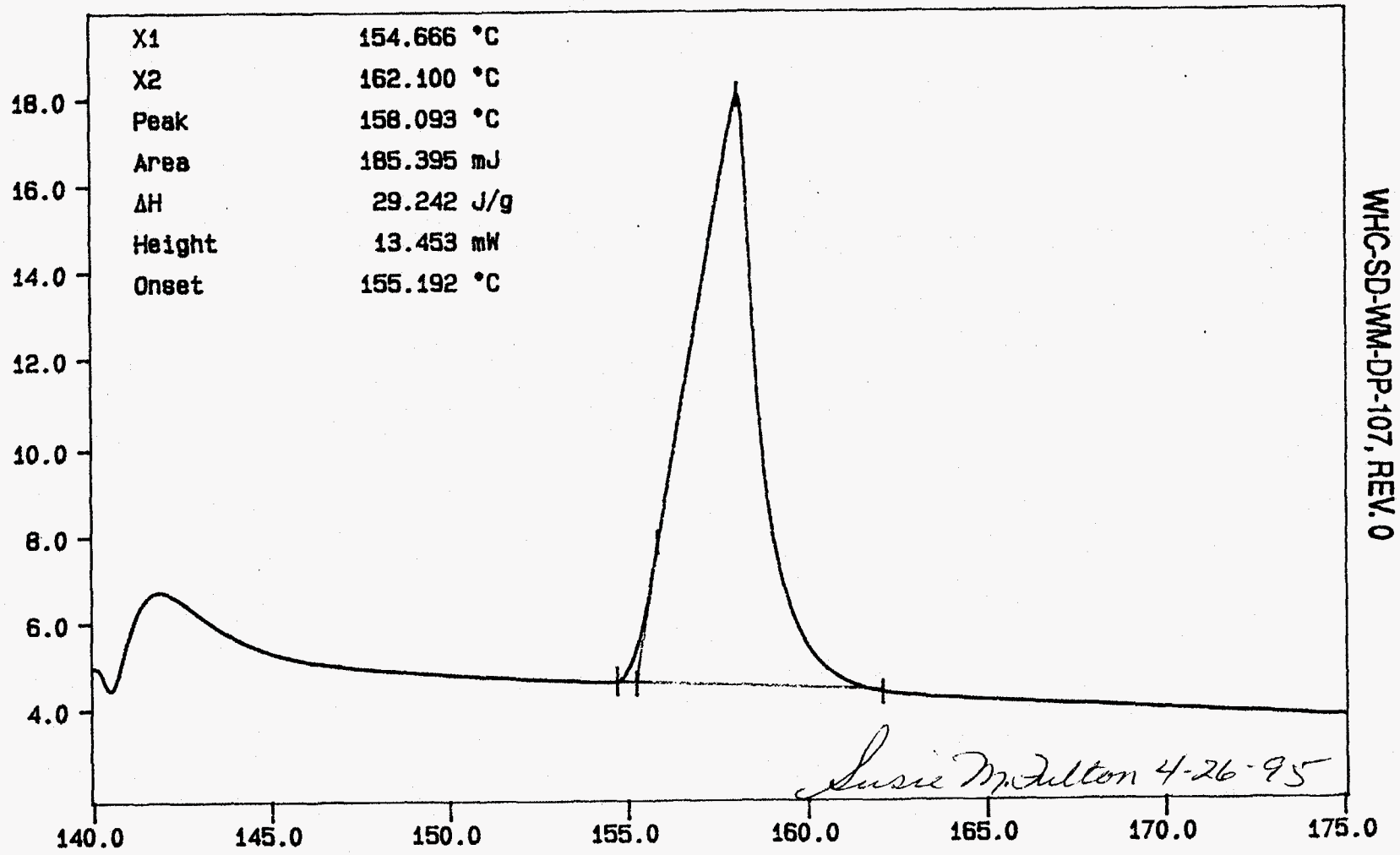
_____
Analyst Signature **Date**

Data Entry Comments:
Sample a bright yellow liquid

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

Curve 1: DSC
File info: IND042601 Wed Apr 26 07:33:22 1995
Sample Weight: 6.340 mg
Indium at 10C/min

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 38 TO 40.

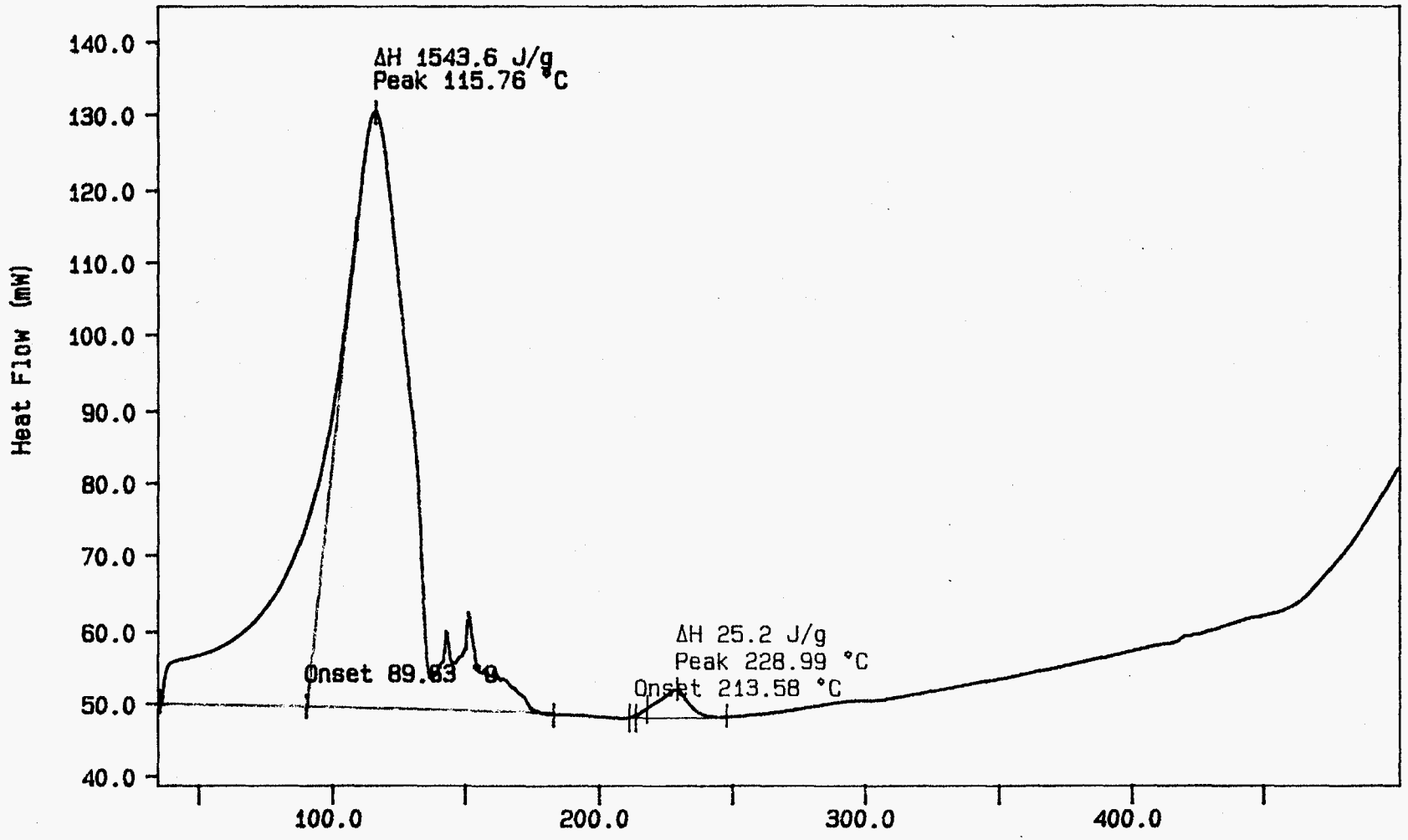


N2 exotherm down
TEMP1: 140.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 175.0 C

SM FULTON
Westinghouse Hanford Co.
222-S Lab
Wed Apr 26 13:59:18 1995

WHC-SD-WM-DP-107, REV.0

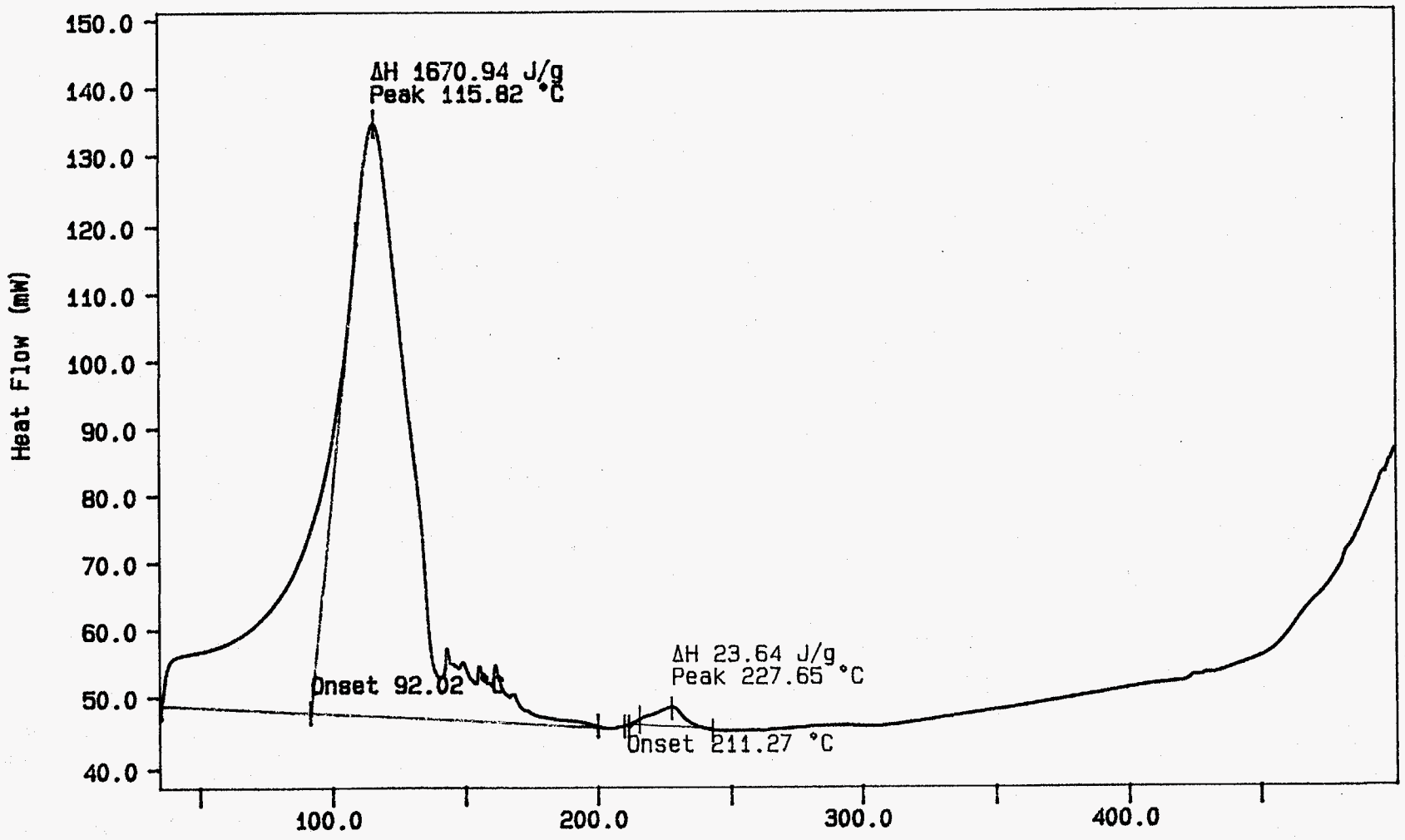
Curve 1: DSC
File info: SAM042606 Wed Apr 26 15:29:20 1995
Sample Weight: 12.240 mg
S95T000556(DUP), 10C/min



TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 500.0 C

SM Fulton
Westinghouse Hanford Co.
222-S Lab
Wed Apr 26 15:31:31 1995

Curve 1: DSC
File info: SAM042605 Wed Apr 26 14:25:53 1995
Sample Weight: 12.140 mg
S95T000556, 10C/min



exotherm down, nitrogen purge gas

TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 600.0 C

SM Fulton
Westinghouse Hanford Co.
222-S Lab
Wed Apr 26 14:29:03 1995

LABCORE Data Entry Template for Worklist# 1012

Analyst: SMF **Instrument:** DSC01 **Book #** 12N14-A

Method: LA-514-114 Rev/Mod B-00 SMF 4/28/95

Worklist Comment: Please run U-201 DSC under N2. bdv

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				DSC-03	SOLID	28.45	28.83	N/A	Joules/g
95000029	U-201	2	SAMPLE	S95T000613	0		DSC-03	SOLID	N/A	Ø		Joules/g
95000029	U-201	3	DUP	S95T000613	0		DSC-03	SOLID	Ø	Ø	N/A	Joules/g
		4	STD				DSC-03	SOLID	28.45	29.33	N/A	Joules/g
95000029	U-201	5	SAMPLE	S95T000619	0		DSC-03	SOLID	N/A	Ø		Joules/g
95000029	U-201	6	DUP	S95T000619	0		DSC-03	SOLID	Ø	Ø	N/A	Joules/g

Final page for worklist # 1012

See attached for signatures 4-26-95
Analyst Signature **Date**

Analyst Signature **Date**

Verified by Blandina Valenzuela 4/26/95

Data Entry Comments: S95T000613 produced three endotherms one at 118.0°C with a delta H of 886.2 J/g, second at 185.7°C with a delta H of 19.15 J/g and third at 243.26°C with a delta H of 285.8 J/g. S95T000619 produced two endotherms one at 103.7 with a delta H of 650.5 J/g and the second at 256.89°C with a delta H 557.06 J/g. S95T000619 was run the day after S95T000613 with a new Standard.

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

LABCORE Data Entry Template for Worklist# 1012

Analyst: SMF **Instrument:** DSC01 **Book #** 12N14-A

SMF 4-24-95

Method: ~~LA-514-113~~ Rev/Mod LA-514-114/B00 QMF 4/28/95

Worklist Comment: Please run U-201 DSC under N2. bdv

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				DSC-01	SOLID			N/A	Joules/g
95000029	U-201	2	SAMPLE	S95T000613	0		DSC-01	SOLID	N/A			Joules/g
95000029	U-201	3	DUP	S95T000613	0		DSC-01	SOLID			N/A	Joules/g
95000029	U-201	4	SAMPLE	S95T000619	0		DSC-01	SOLID	N/A			Joules/g
95000029	U-201	5	DUP	S95T000619	0		DSC-01	SOLID			N/A	Joules/g

Final page for worklist # 1012

Susie M. Sulter

Analyst Signature **Date**

Analyst Signature **Date**

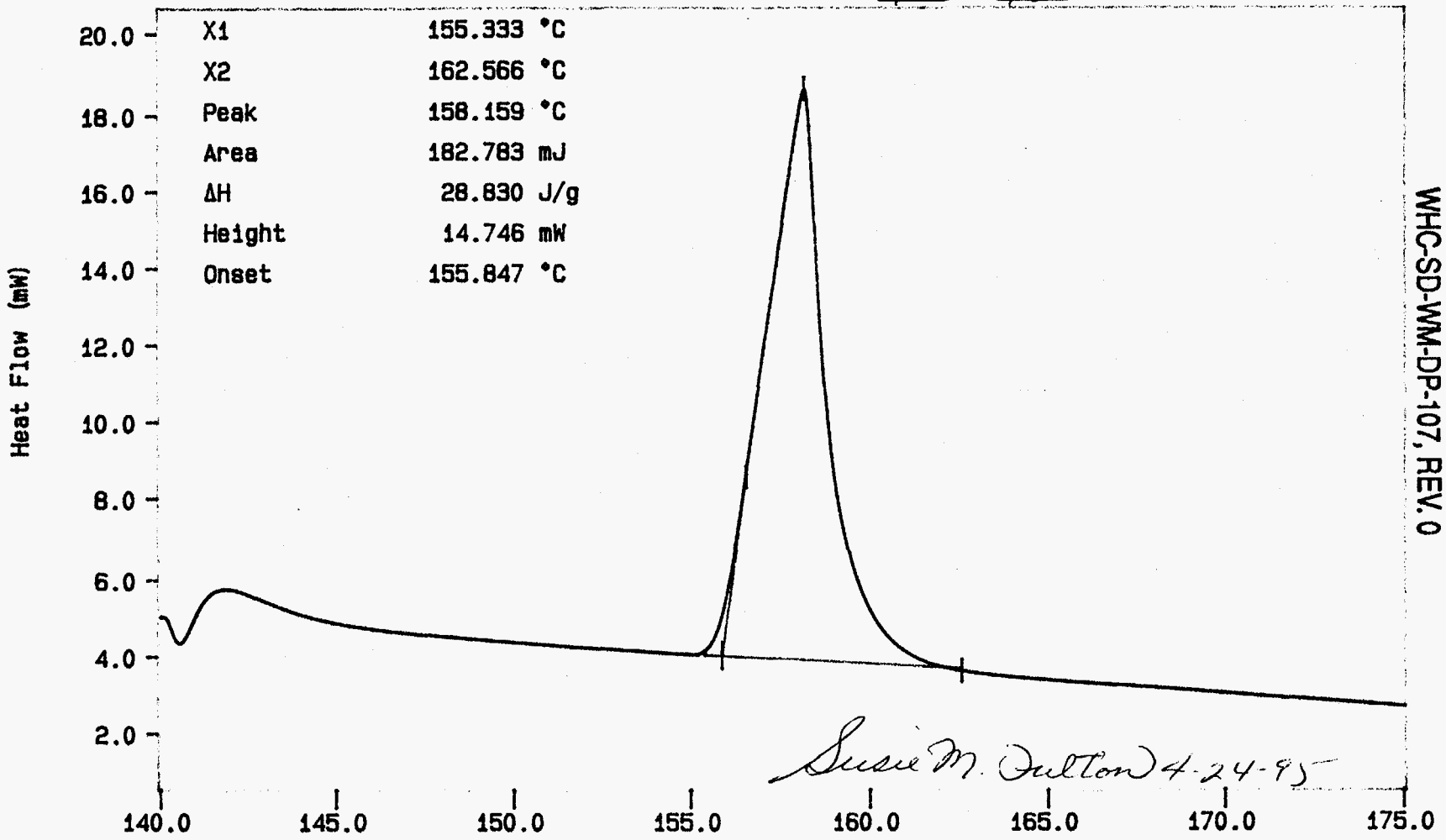
Data Entry Comments:
S95T000613 lite yellow liquid w/ large clear crystals (≤ 1/8") SMF

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

Curve 1: DSC
File info: IND042402 Mon Apr 24 10:19:39 1995
Sample Weight: 6.340 mg
Indium at 10C/min

BEST AVAILABLE COPY

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 43 TO 48.



WHC-SD-WM-DP-107, REV. 0

43

N2 exotherm down

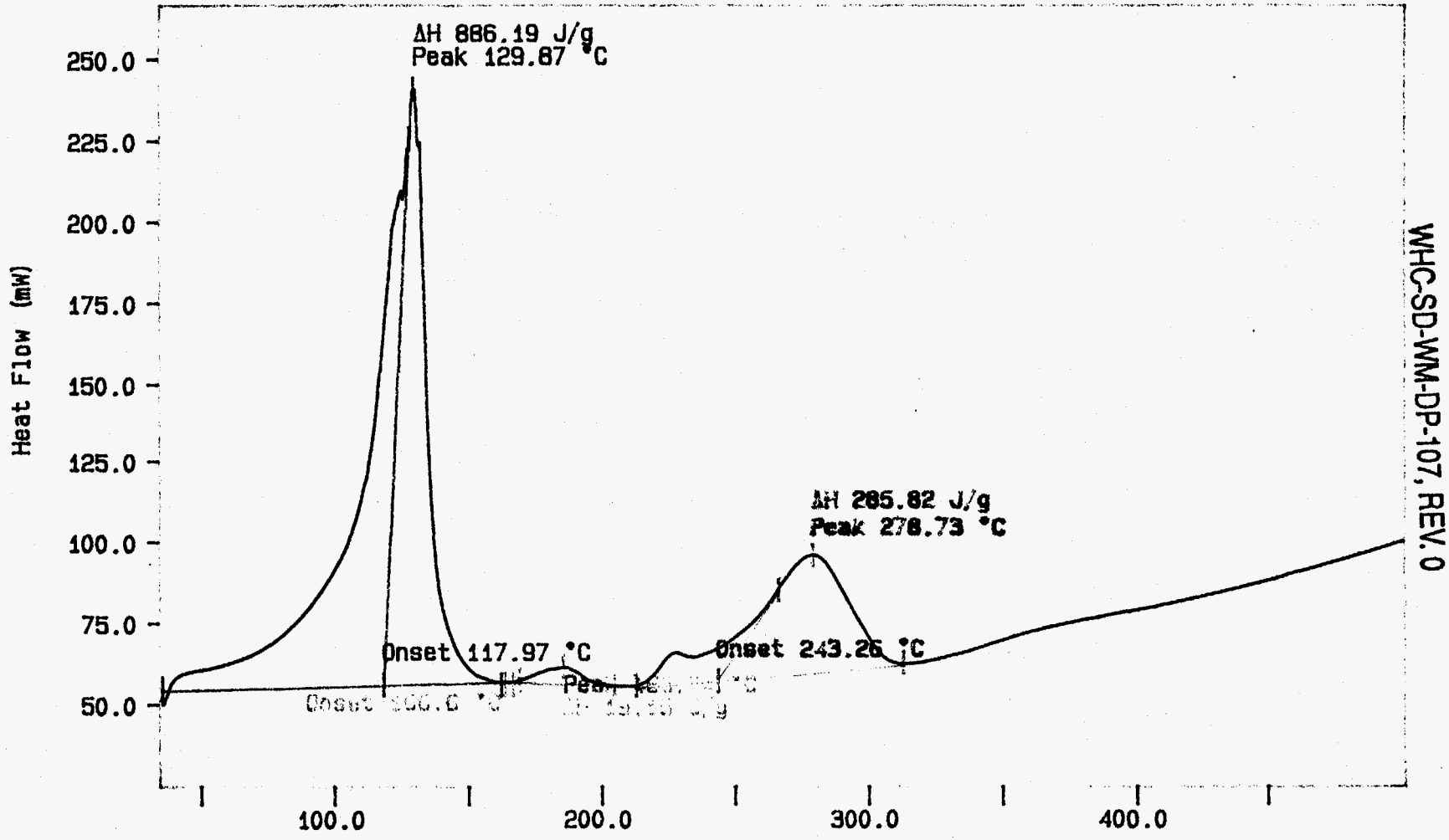
Temperature (°C)

TEMP1: 140.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 175.0 C

SM FULTON
Westinghouse Hanford Co.
222-S Lab
Mon Apr 24 10:28:48 1995

Curve 1: DSC
File info: SAM042401 Mon Apr 24 12:08:38 1995
Sample Weight: 32.310 mg
S95T000590, 1013 10C/min
SMF 4-24-95

BEST AVAILABLE COPY



WHC-SD-WM-DP-107, REV.0

4-4

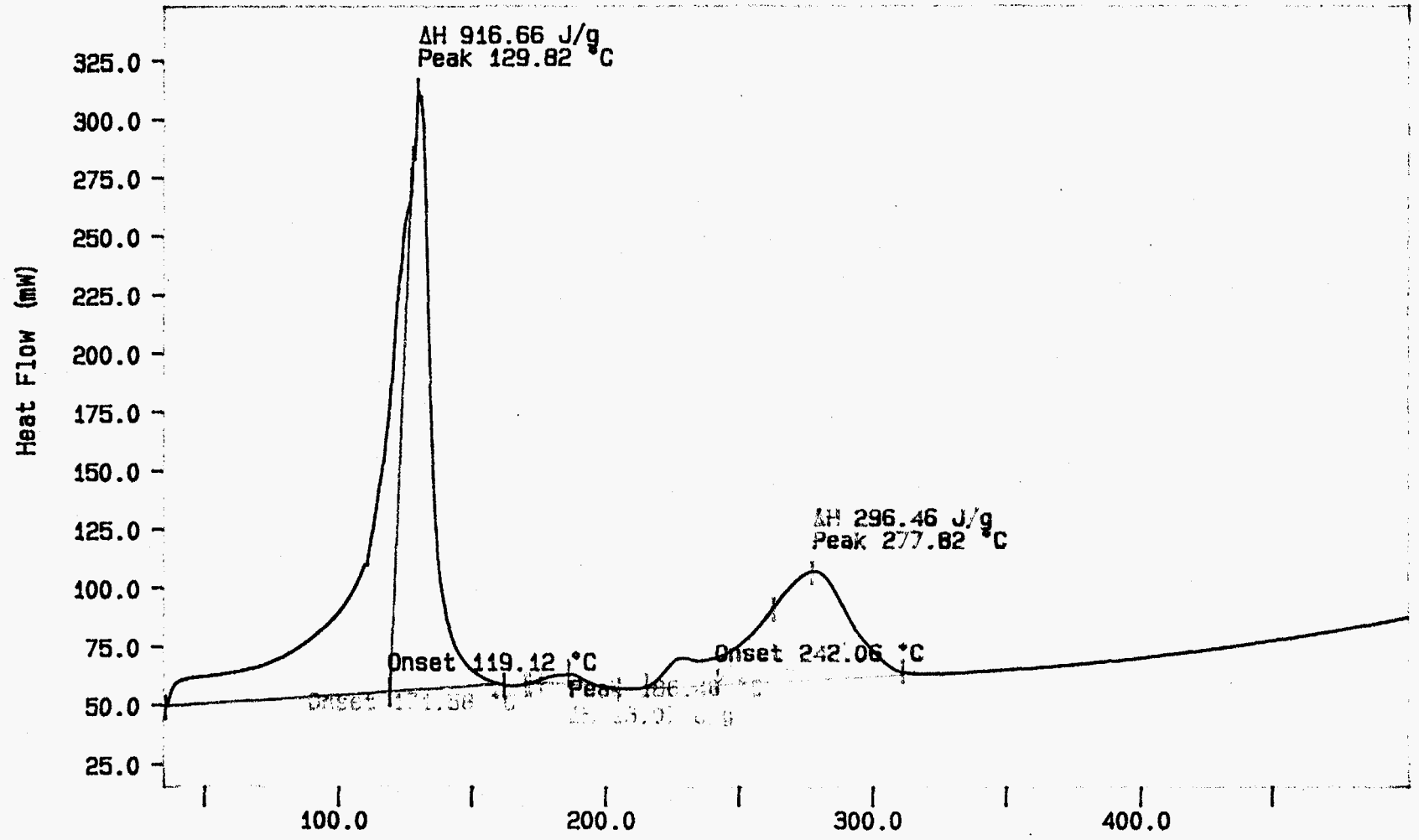
exotherm down, nitrogen purge gas

TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 500.0 C

SM Fulton
Westinghouse Hanford Co.
222-S Lab
Mon Apr 24 13:26:14 1995

Curve 1: DSC
File info: SAM042402 Mon Apr 24 14:34:38 1995
Sample Weight: 38.310 mg
S95T000613(dup), 10C/min

BEST AVAILABLE COPY



exotherm down, nitrogen purge gas

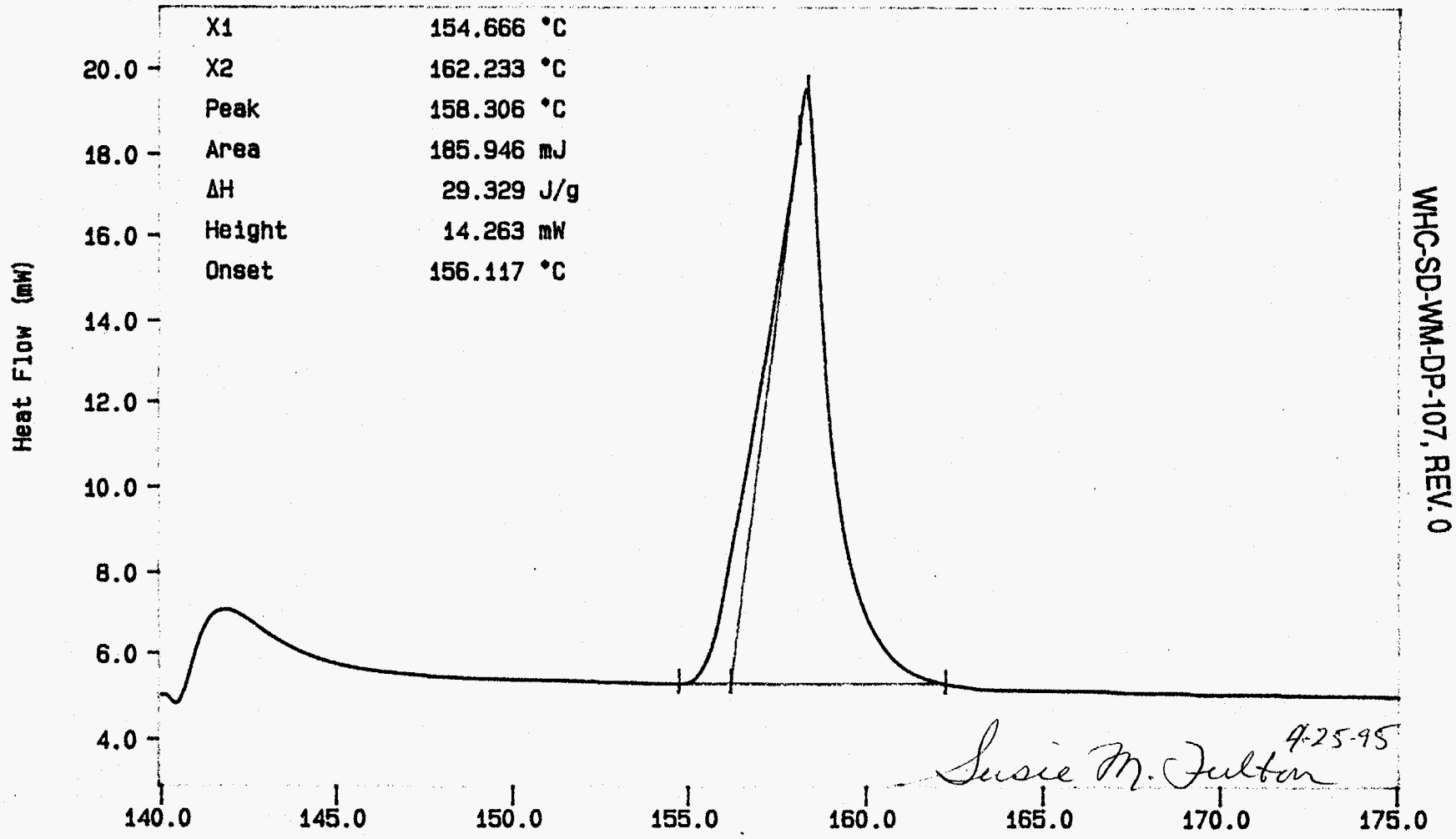
TEMP1: 98.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 500.0 C

SM Fulton
Westinghouse Hanford Co.
222-S Lab
Mon Apr 24 15:04:00 1995

WHC-SD-WM-DP-107, REV. 0

Curve 1: DSC
File info: IND042501 Tue Apr 25 07:39:13 1995
Sample Weight: 6.340 mg
Indium at 10C/min

BEST AVAILABLE COPY



WHC-SD-WM-DP-107, REV.0

46

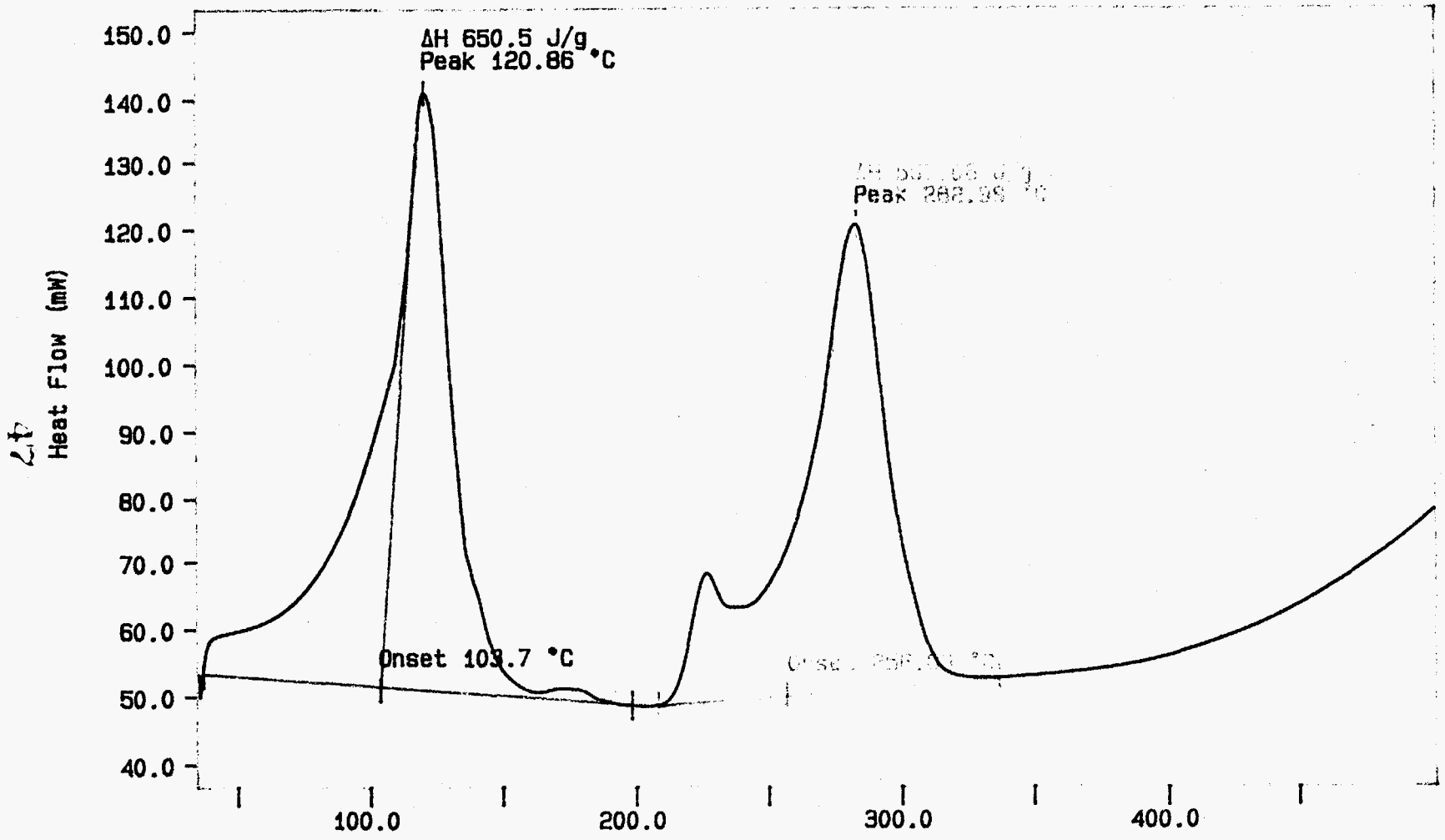
N2 exotherm down
Temperature (°C)

TEMP1: 140.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 175.0 C

SM FULTON
Westinghouse Hanford Co.
222-S Lab
Tue Apr 25 07:44:21 1995

Curve 1: DSC
File info: SAM042501 Tue Apr 25 08:55:30 1995
Sample Weight: 29.590 mg
S95T000619, 10C/min

BEST AVAILABLE COPY



WHC-SD-WM-DP-107, REV.0

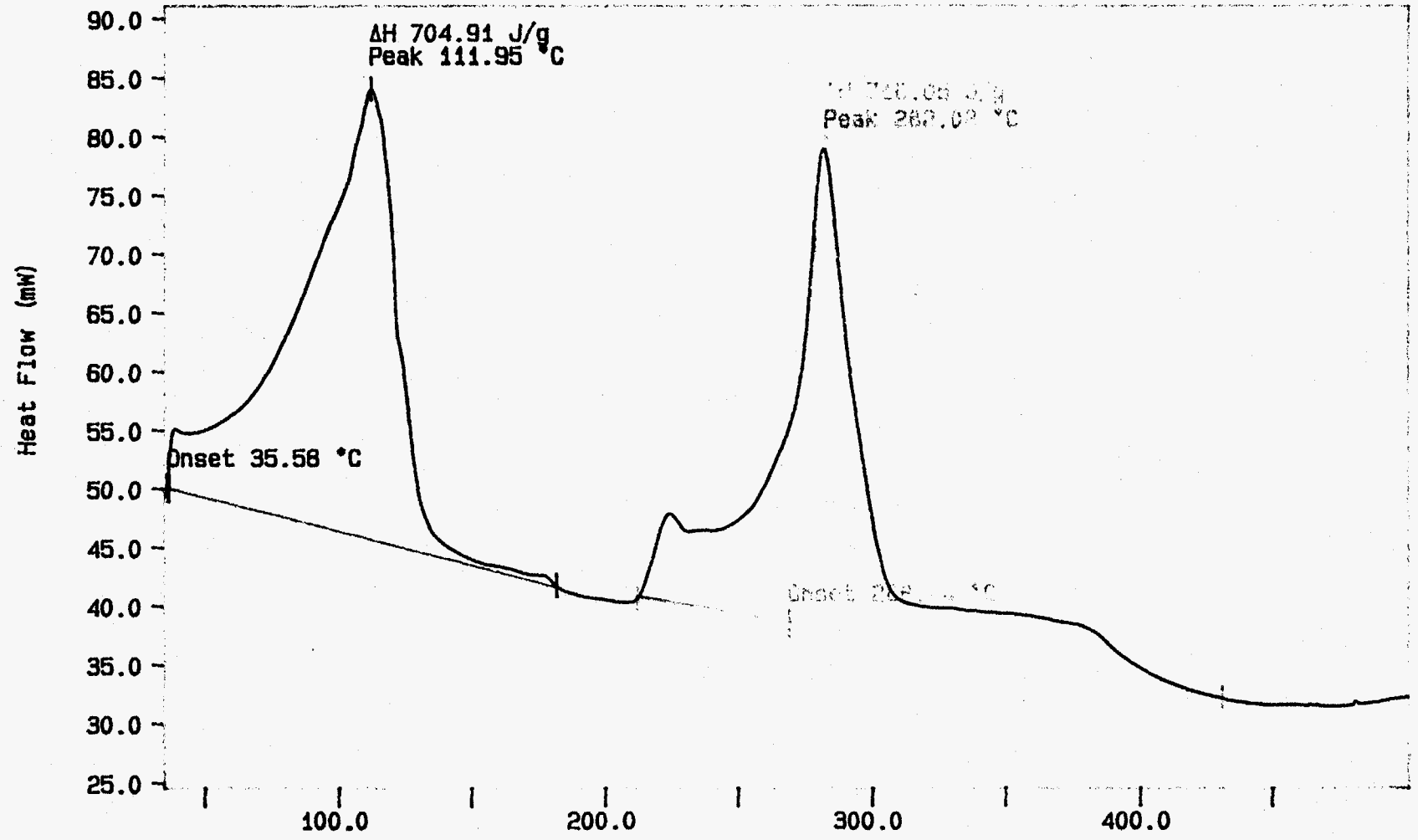
exotherm down, nitrogen purge gas

TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 600.0 C

SM Fulton
Westinghouse Hanford Co.
222-S Lab
Tue Apr 25 11:25:52 1995

Curve 1: DSC
File info: SAM042502 Tue Apr 25 10:41:37 1995
Sample Weight: 14.040 mg
S95T000619(DUP), 10C/min

BEST AVAILABLE COPY



exotherm down, nitrogen purge gas

Temperature (°C)

TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 500.0 C

SM Fulton
Westinghouse Hanford Co.
222-S Lab
Tue Apr 25 11:00:36 1995

WHC-SD-WM-DP-107, REV.0

LABCORE Data Entry Template for Worklist# 1026

Analyst: RDM **Instrument:** DSC01 **Book #** 12N14A

Method: LA-514-113 Rev/Mod B-1

Worklist Comment: Please run U-201 DSC under N2. bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD				DSC-01	LIQUID	28.45	29.7	N/A	Joules/g
95000029	U-201	2 SAMPLE	S95T000625	0		DSC-01	LIQUID	N/A	Ø		Joules/g
95000029	U-201	3 DUP	S95T000625	0		DSC-01	LIQUID	Ø	Ø	N/A	Joules/g

Final page for worklist # 1026

4/23/95
Analyst Signature **Date**

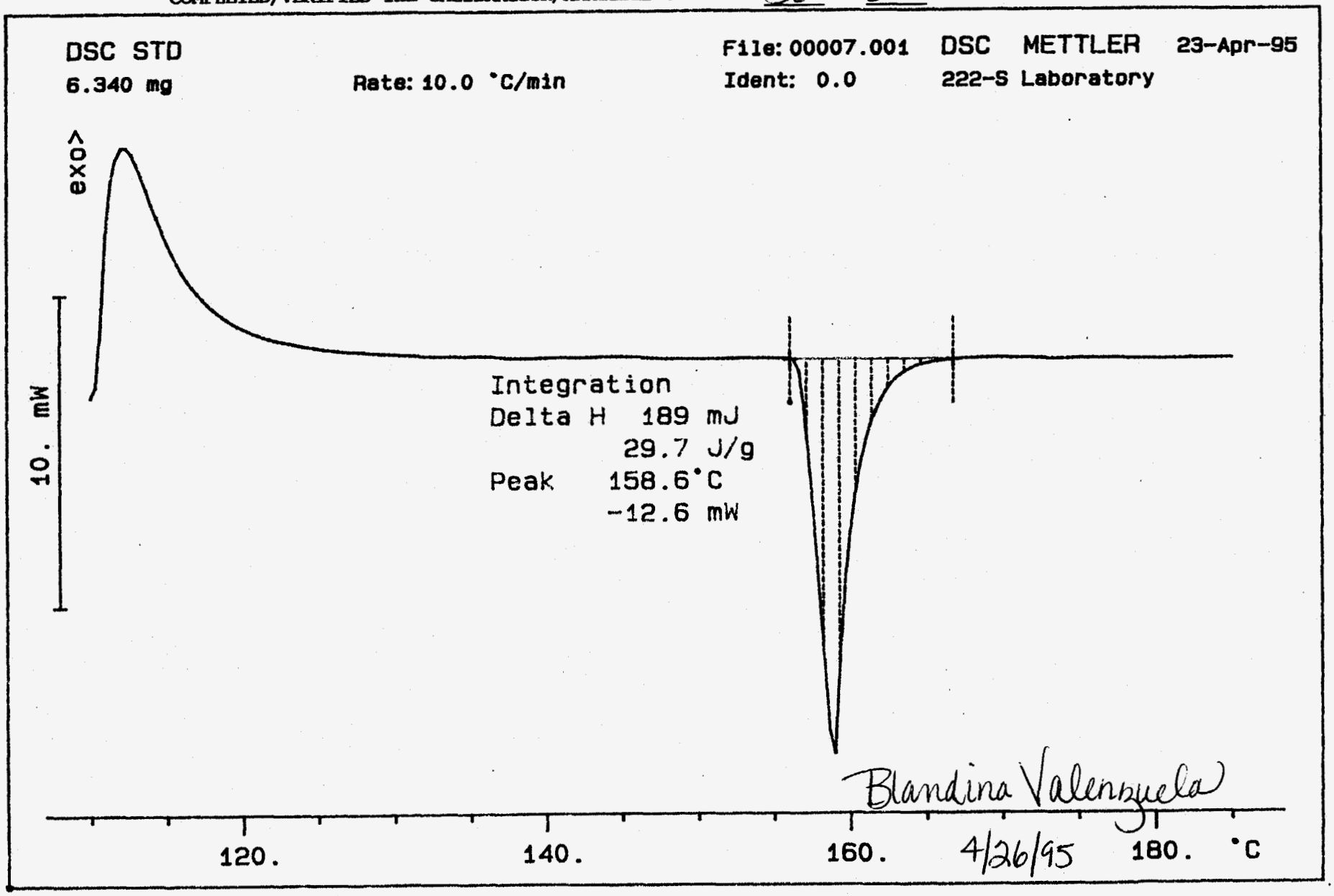
4-25-55
Analyst Signature **Date**

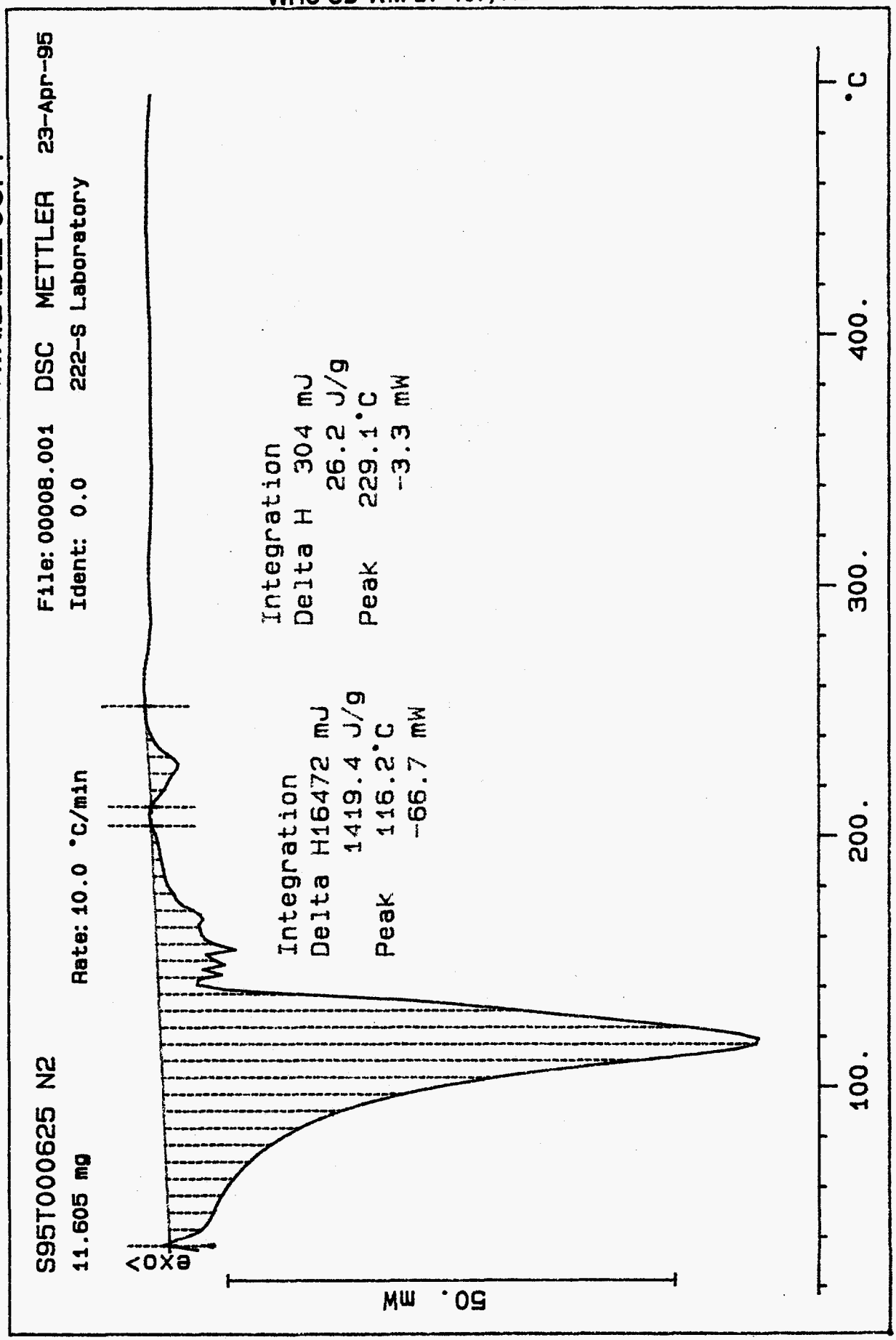
Verified by Blandina Valenzuela 4/25/95

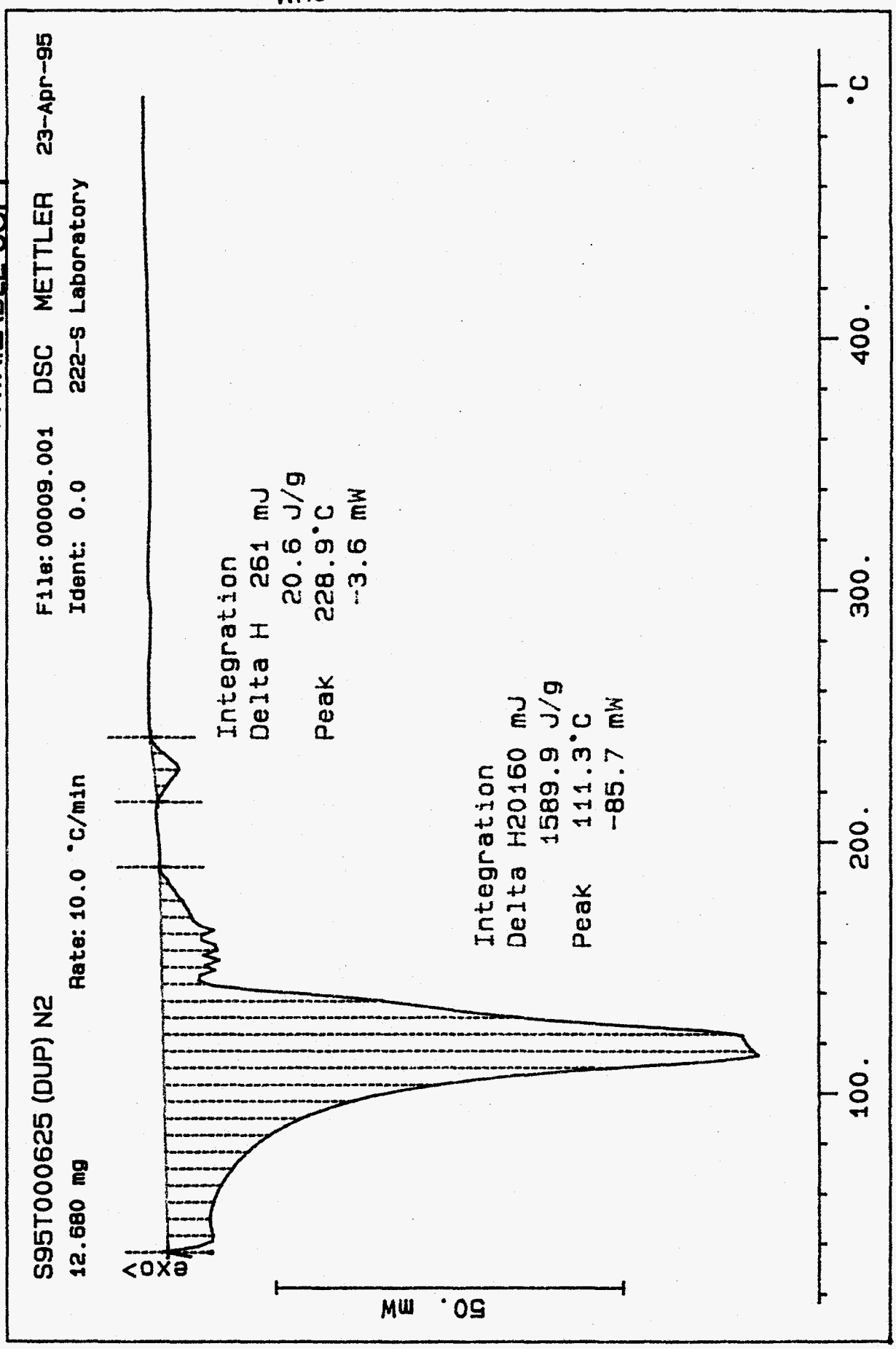
Data Entry Comments: Sample S95T000625 produced two endotherms one at 116.2°C with a delta H of 1419.4 J/g and second at 229.1°C with a delta H of 26.2 J/g

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 50 TO 52.







LABCORE Data Entry Template for Worklist# 946

Analyst: SMF **Instrument:** TGA01 **Book #** 42N8-A

Method: LA-514-114 Rev/Mod B-0

Worklist Comment: Please run U-201 TGA under N2. bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD				TGA-03	SOLID	59.19	58.25	N/A	%
95000029	U-201	2 SAMPLE	S95T000536	0		TGA-03	SOLID	N/A	18.49		%
95000029	U-201	3 DUP	S95T000536	0		TGA-03	SOLID	18.49	18.25	N/A	%
95000029	U-201	4 SAMPLE	S95T000540	0		TGA-03	SOLID	N/A	14.34		%
95000029	U-201	5 DUP	S95T000540	0		TGA-03	SOLID	14.34	15.2	N/A	%

Final page for worklist # 946

See attached for signatures
Analyst Signature **Date**

Data entered + verified by
Blandina Valenzuela
Analyst Signature **Date**

Data Entry Comments: S95T000536 produced a second weight loss step of 19.03% at approximately 290°C. S95T000540 produced a second weight loss step ~~at~~ of 21.76% at approximately 300°C.

4/27/95 BDV

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

LABCORE Data Entry Template for Worklist# 946

Analyst: ~~SMF~~ **Instrument:** TGA01 **Book #** 42N8-A

Method: ~~LA-560-112 Rev/Mod~~ LA-514-114/B-0
~~SMF~~ 4-26-95

Worklist Comment: Please run U-201 TGA under N2. bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD				TGA-01	SOLID			N/A	%
95000029	U-201	2 SAMPLE	S95T000536	0		TGA-01	SOLID	N/A			%
95000029	U-201	3 DUP	S95T000536	0		TGA-01	SOLID			N/A	%
95000029	U-201	4 SAMPLE	S95T000540	0		TGA-01	SOLID	N/A			%
95000029	U-201	5 DUP	S95T000540	0		TGA-01	SOLID			N/A	%

Final page for worklist # 946

Susie M. Fulton 4-26-95
Analyst Signature **Date**

Analyst Signature **Date**

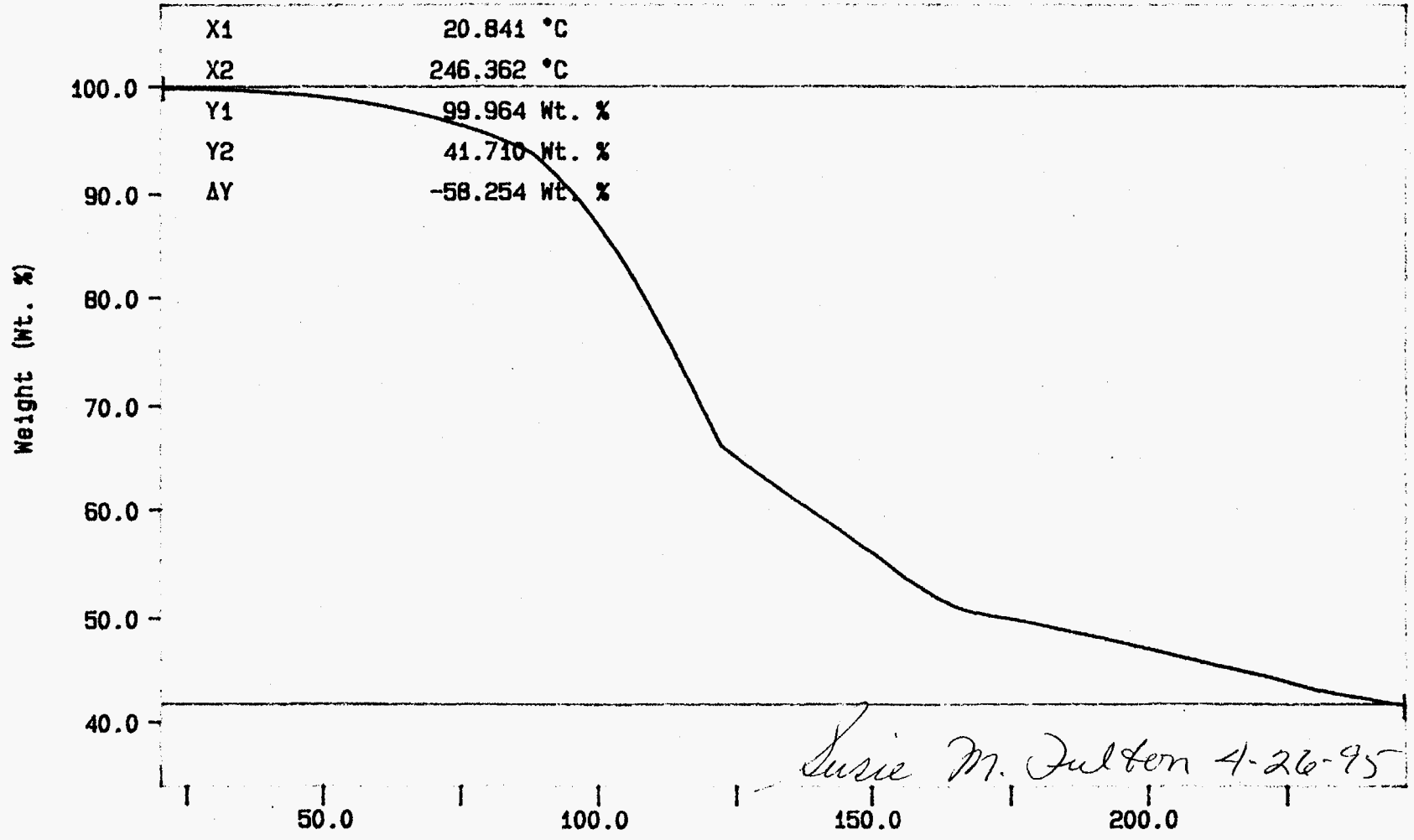
Data Entry Comments:
S95T000536 - Yellow sludge w/large white opaque crystals & a few small black particles

S95T000540 - Yellow Caky (like Cooked egg yolk) material w/small crystals

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

Curve 1: TGA
File info: TER042601 Wed Apr 26 07:47:13 1995
Sample Weight: 17.100 mg
42N8A Terliq

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 55 TO 59.

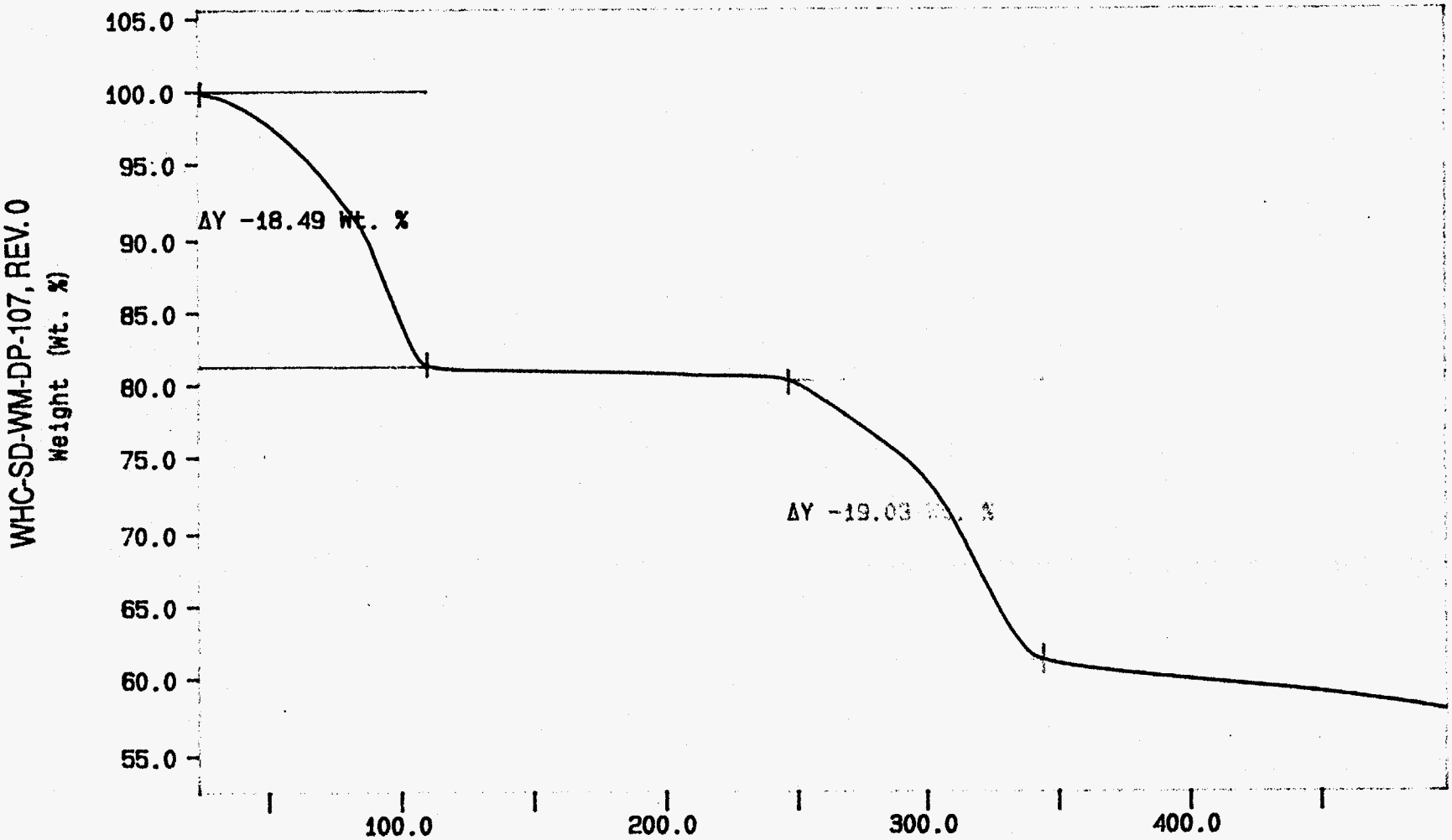


Susie M. Fulton 4-26-95

N2
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 280.0 C

SM Fulton
PERKIN-ELMER
7 Series Thermal Analysis System
Wed Apr 26 08:51:19 1995

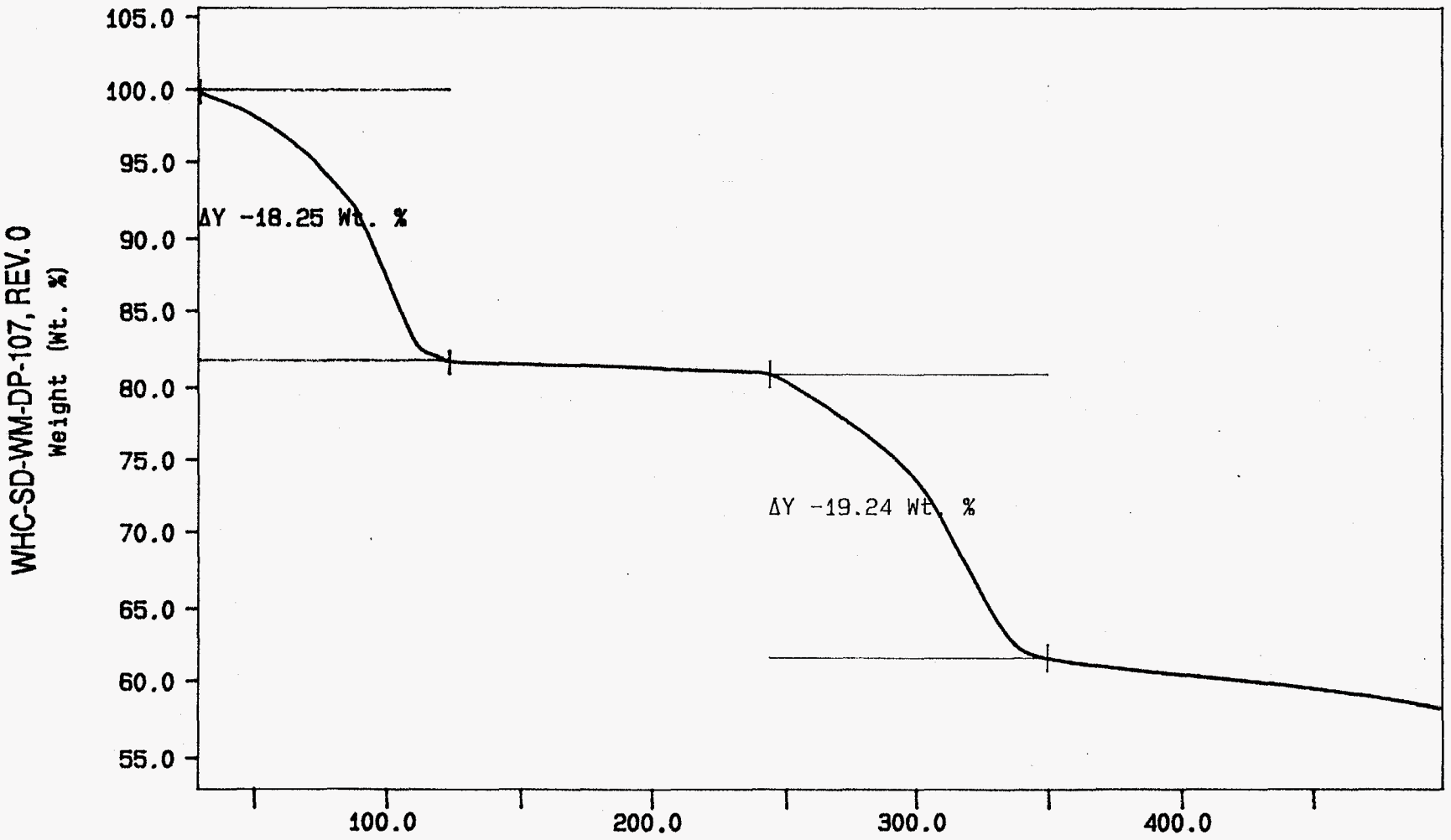
Curve 1: TGA
File info: SAM042601 Wed Apr 26 09:21:57 1995
Sample Weight: 11.716 mg
S95T000536, 10C/min



N2
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 600.0 C

SM Fulton
PERKIN-ELMER
7 Series Thermal Analysis System
Wed Apr 26 09:39:55 1995

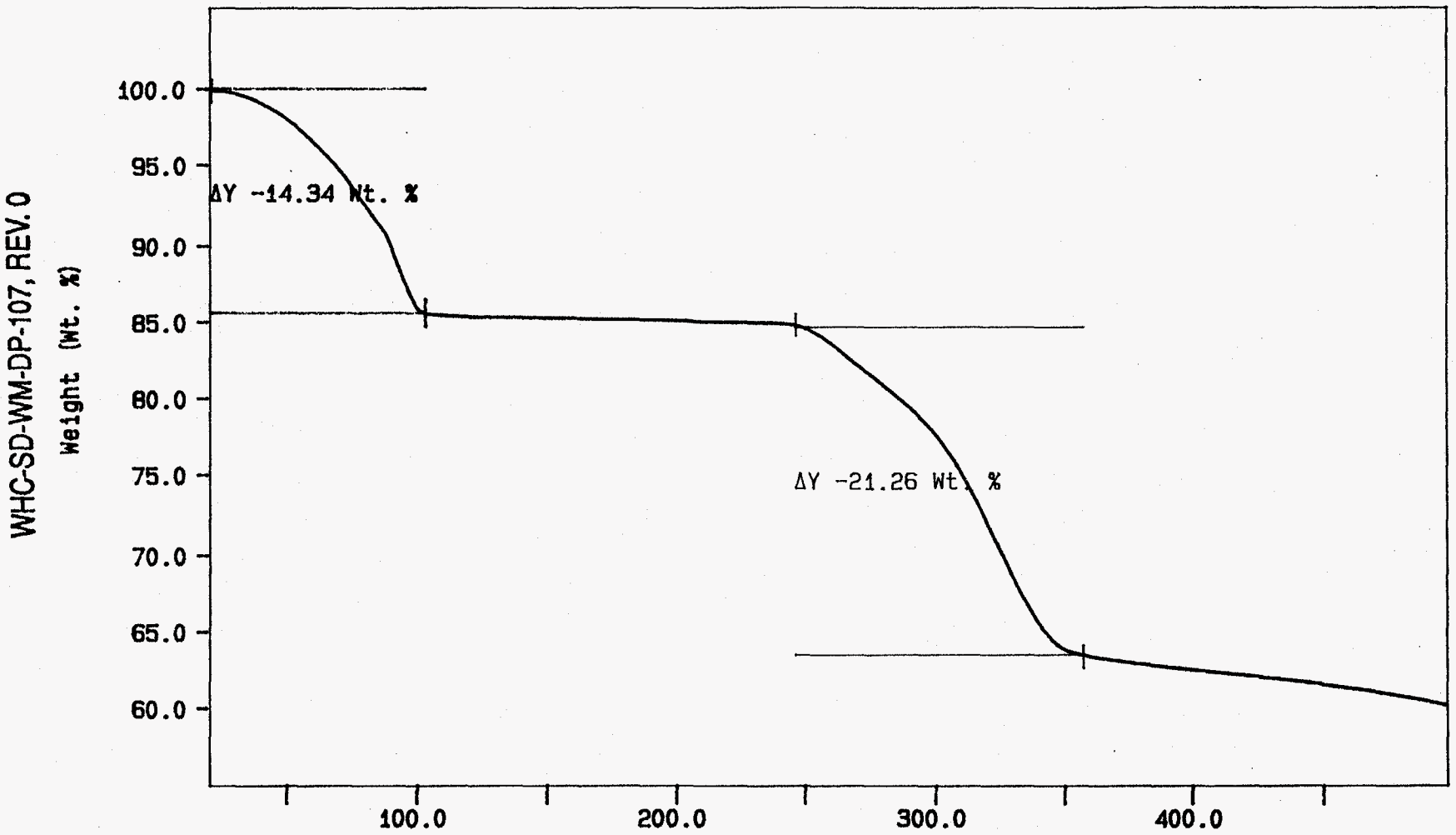
Curve 1: TGA
File info: SAM042602 Wed Apr 26 10:29:21 1995
Sample Weight: 15.354 mg
S95T000536(DUP). 10C/min



N2
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 600.0 C

SM Fulton
PERKIN-ELMER
7 Series Thermal Analysis System
Wed Apr 26 11:01:49 1995

Curve 1: TGA
File info: SAM042603 Wed Apr 26 11:52:54 1995
Sample Weight: 12.444 mg
S95T000540, 10C/min

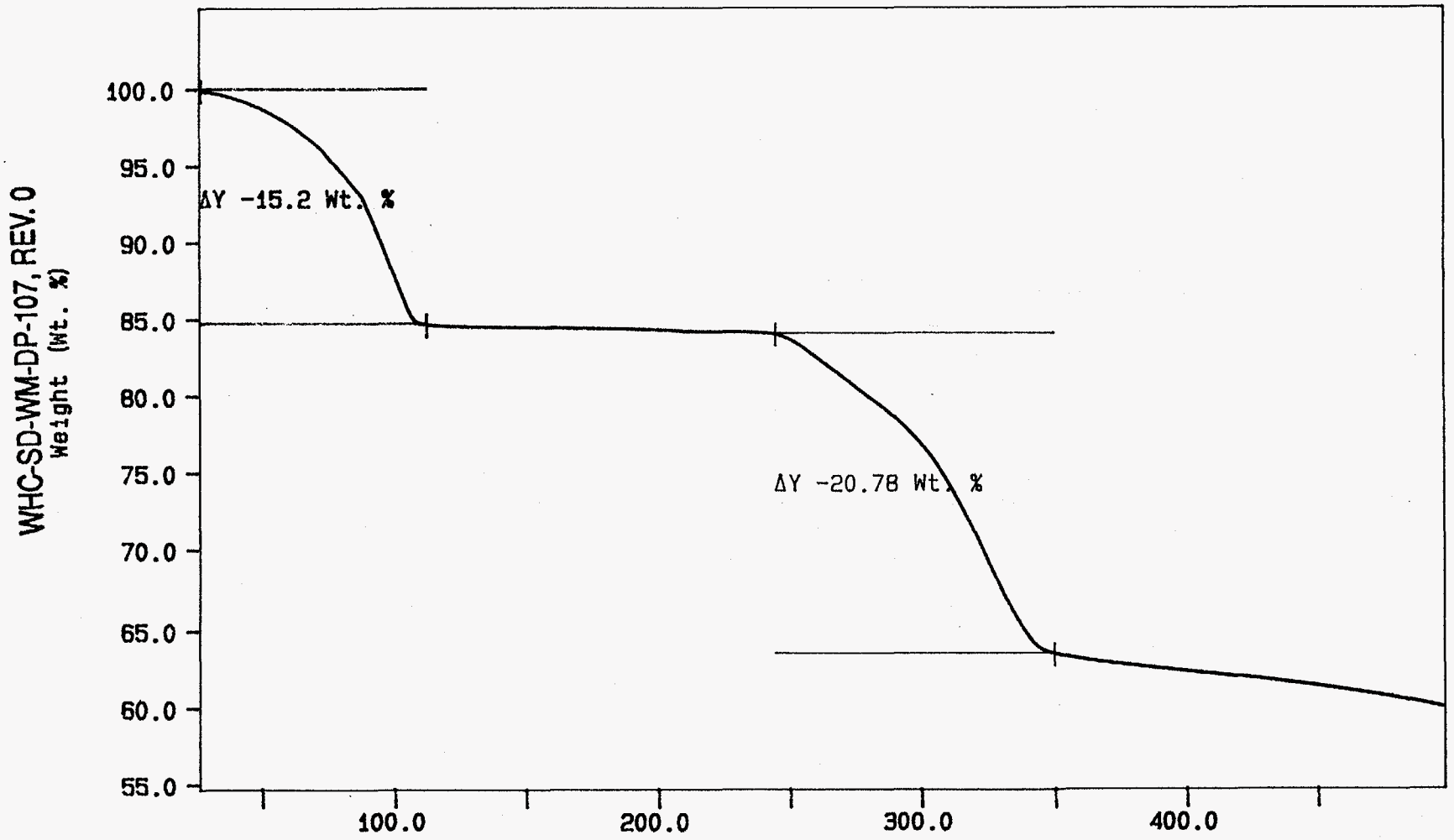


WHC-SD-WM-DP-107, REV.0

N2
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 600.0 C

SM Fulton
PERKIN-ELMER
7 Series Thermal Analysis System
Wed Apr 26 12:00:10 1995

Curve 1: TGA
File info: SAM042604 Wed Apr 26 13:01:27 1995
Sample Weight: 13.972 mg
S95T000540 (DUP). 10C/min



N2
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 500.0 C

SM Fulton
PERKIN-ELMER
7 Series Thermal Analysis System
Wed Apr 26 13:25:24 1995

LABCORE Data Entry Template for Worklist# 947

Analyst: SMF **Instrument:** TGA01 _____ **Book #** 42N8-A

Method: LA-560-112 Rev/Mod A-2

Worklist Comment: Please run U-201 TGA under N2. bdv

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				TGA-01	SOLID	59.19	58.47	N/A	%
95000033	U-201	2	SAMPLE	S95T000548	0		TGA-01	SOLID	N/A	36.29		%
95000033	U-201	3	DUP	S95T000548	0		TGA-01	SOLID	36.29	35.74	N/A	%
95000033	U-201	4	SAMPLE	S95T000552	0		TGA-01	SOLID	N/A	38.99		%
95000033	U-201	5	DUP	S95T000552	0		TGA-01	SOLID	38.99	33.80	N/A	%
		6	STD				TGA-01	SOLID	59.19	58.94	N/A	%
95000033	U-201	7	TRIPL	S95T000552	0		TGA-01	SOLID	38.99	37.71	N/A	%

Final page for worklist # 947

See attached for Signatures
Analyst Signature **Date**

4/27/95 BDV
Data entered ~~bdv~~ and verified by Blandina Valenzuela
Analyst Signature **Date**

Data Entry Comments: S95T000548 produced a second weight loss step of 7.43% at 273.0°C. S95T000552 produced a second weight loss step of 6.38% at 277°C.

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

LABCORE Data Entry Template for Worklist# 947

Analyst: SMF **Instrument:** TGA01 _____ **Book #** 412 N8 - A

Method: LA-560-112 Rev/Mod A-2

Worklist Comment: Please run U-201 TGA under N2. bdv

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				TGA-01	SOLID	59.19	58.47	N/A	%
95000033	U-201	2	SAMPLE	S95T000548	0		TGA-01	SOLID	N/A	36.29		%
95000033	U-201	3	DUP	S95T000548	0		TGA-01	SOLID	36.29	35.74	N/A	%
95000033	U-201	4	SAMPLE	S95T000552	0		TGA-01	SOLID	N/A	38.99		%
95000033	U-201	5	DUP	S95T000552	0		TGA-01	SOLID	38.99	33.80	N/A	%

Final page for worklist # 947

Susie M. Fulton 4-26-95
Analyst Signature **Date**

_____
Analyst Signature **Date**

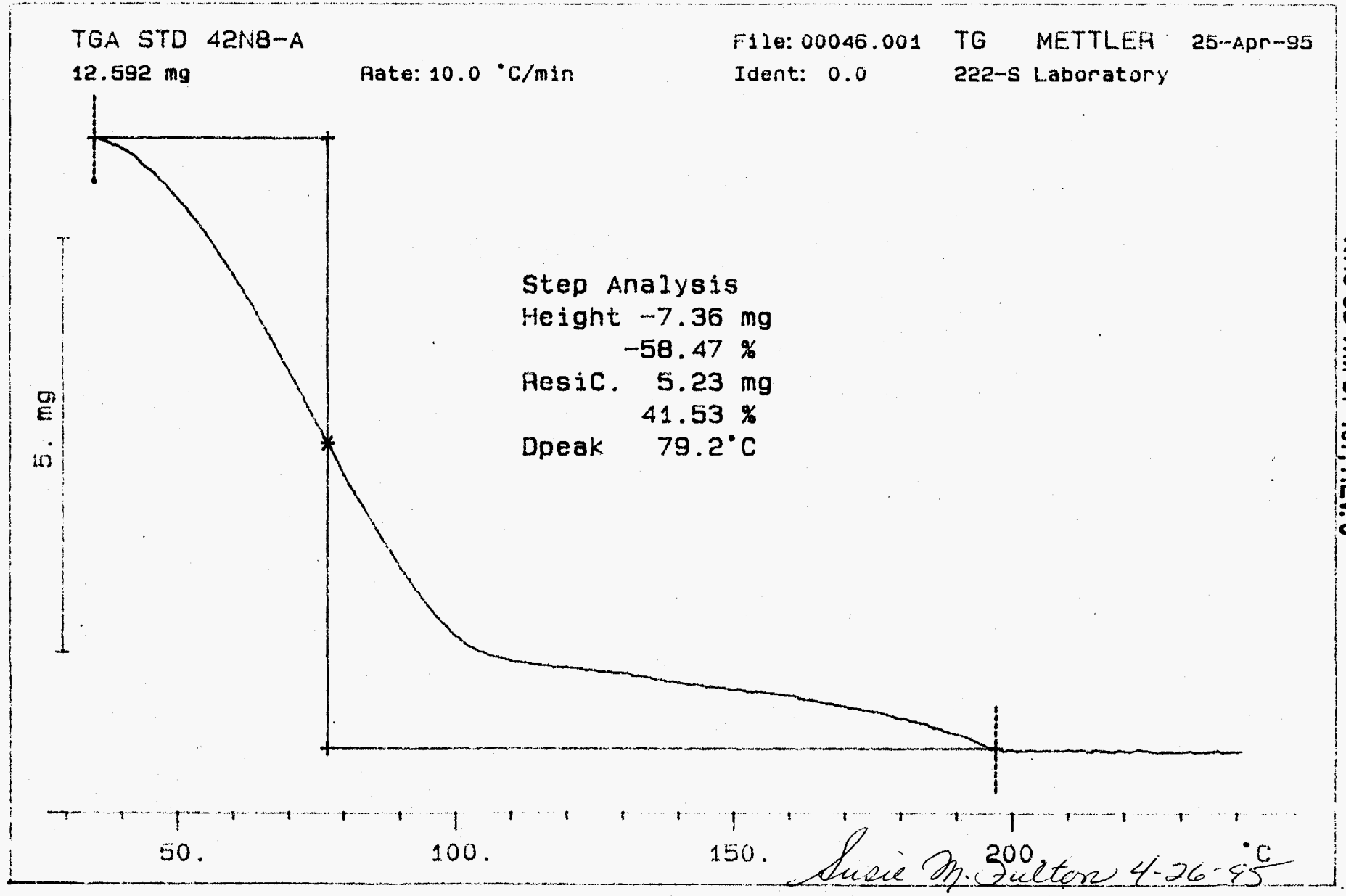
Data Entry Comments:
S95T000548 - light yellow sludge w/a thin clear film and med. opaque white crystals

S95T000552 - dull yellow sludge w/large crystals

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

BEST AVAILABLE COPY

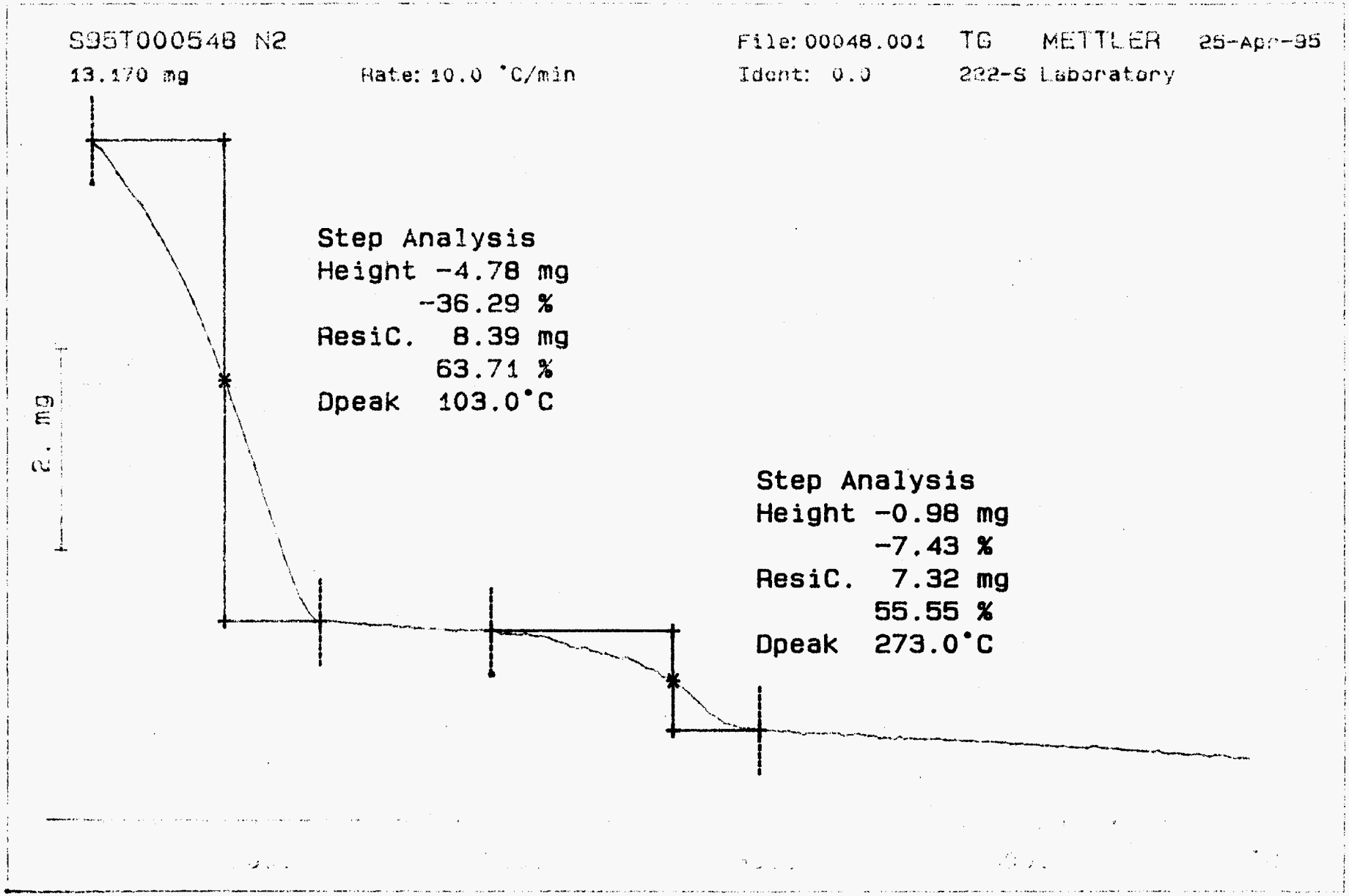
SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 62 TO 68.

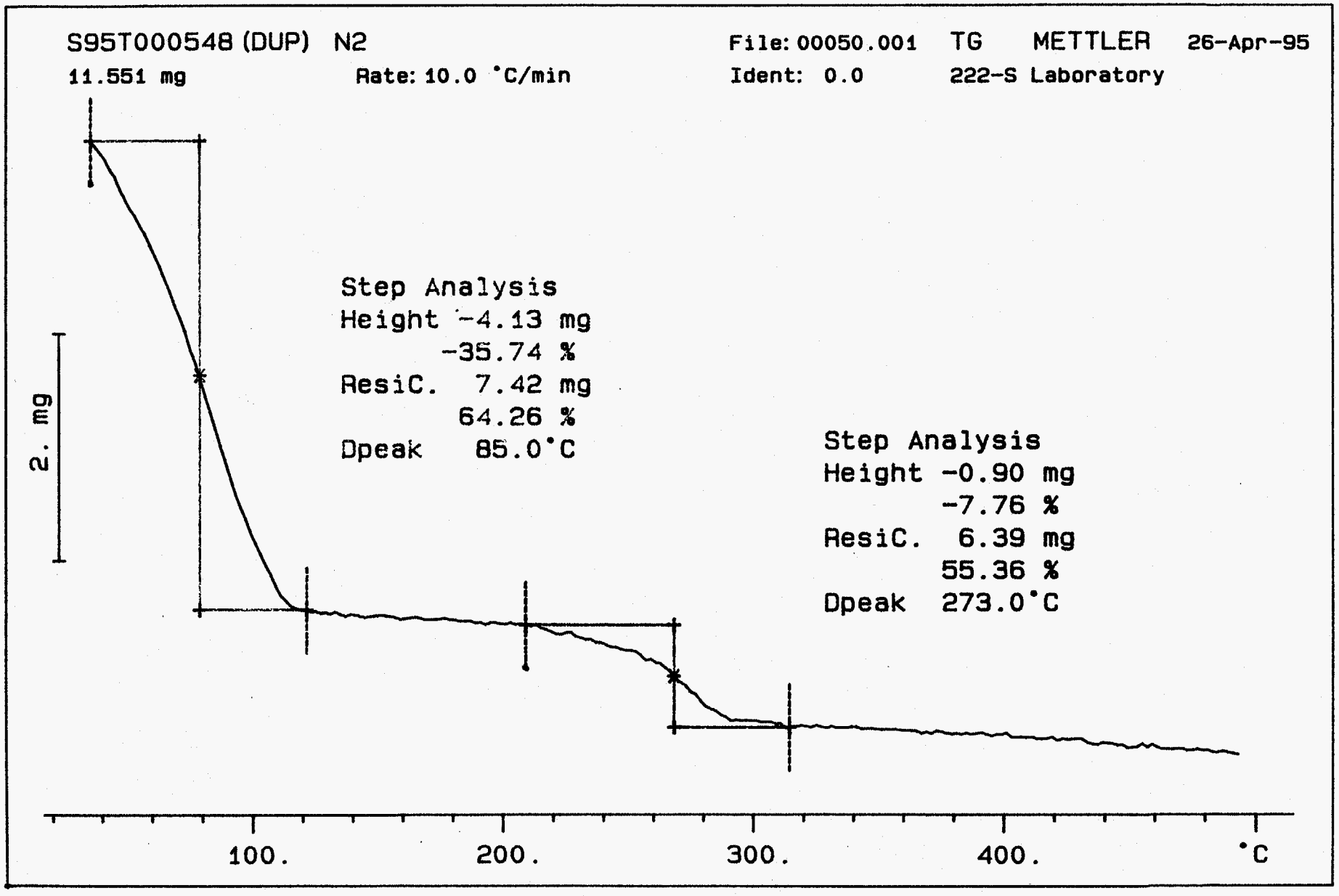


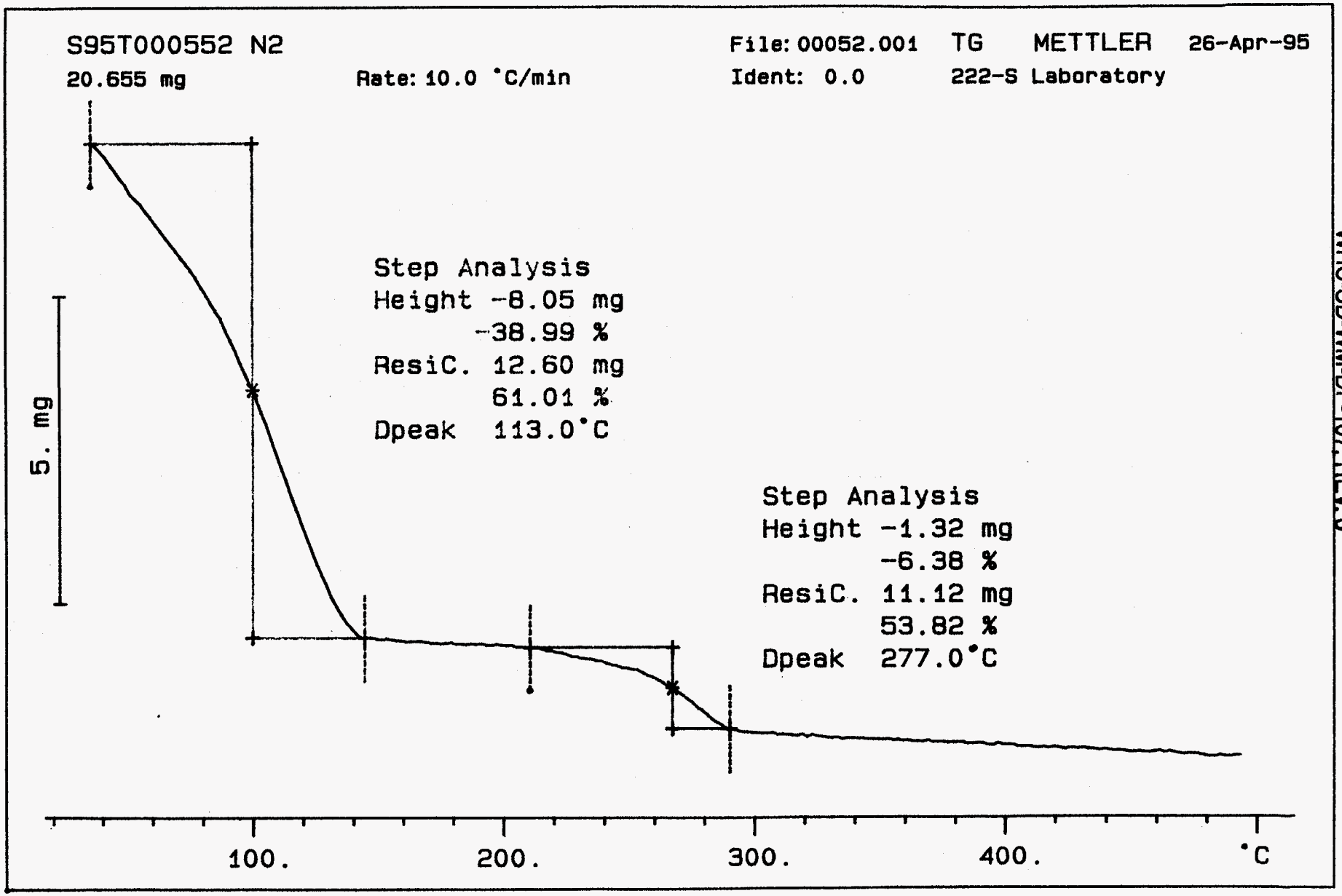
Susie M. Sutton 4-26-95

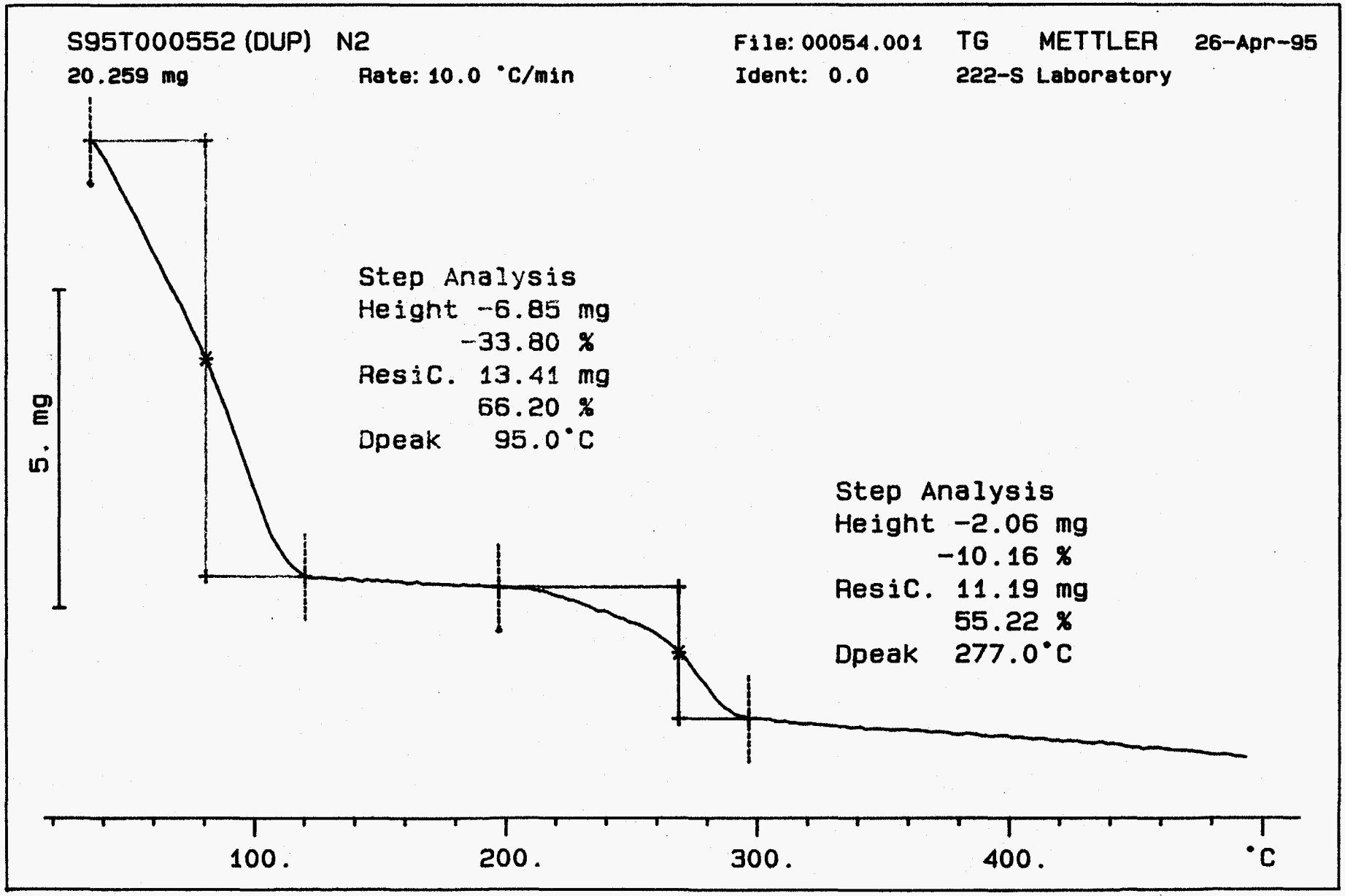
62

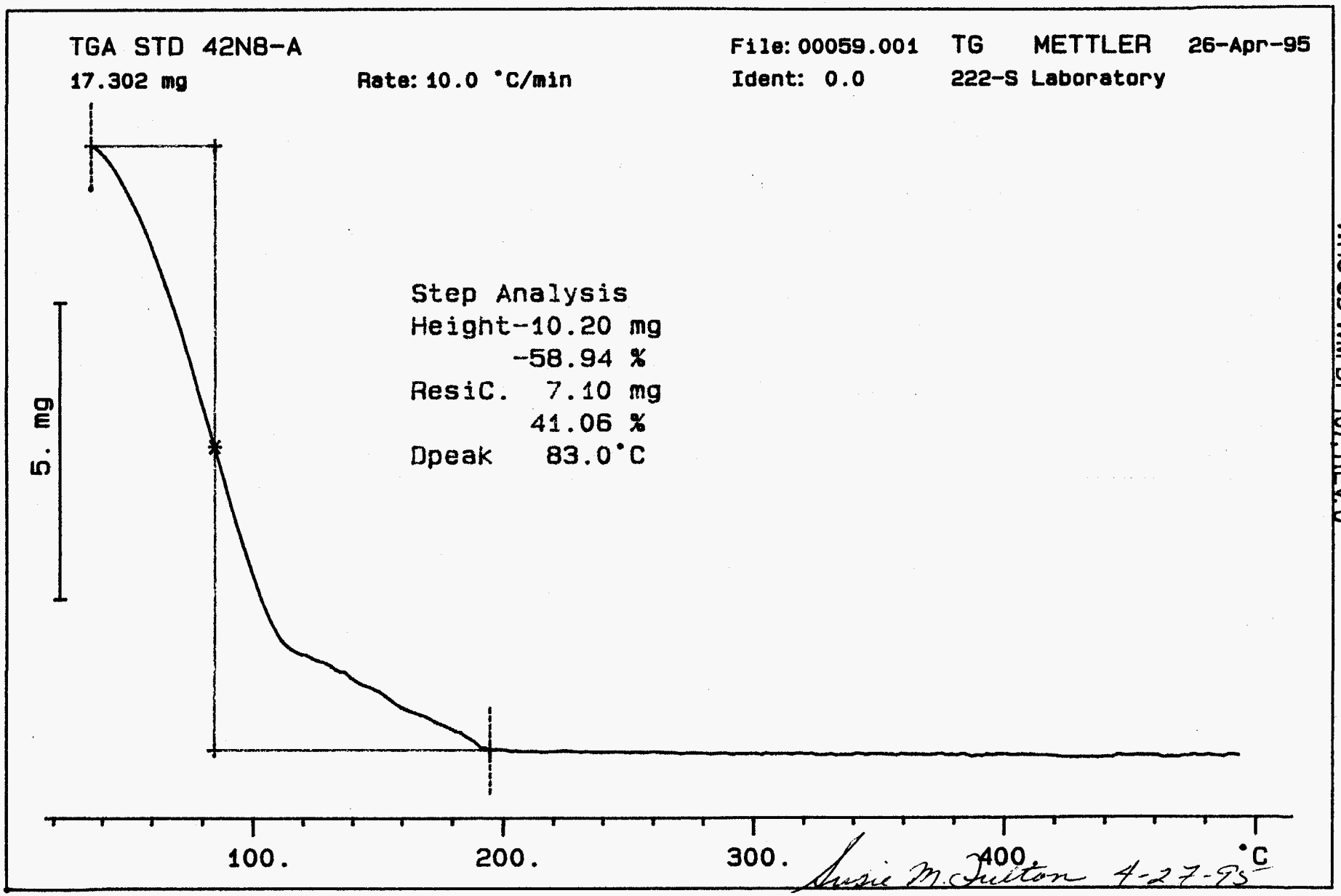
WHC-SD-WM-DP-107, REV. 0

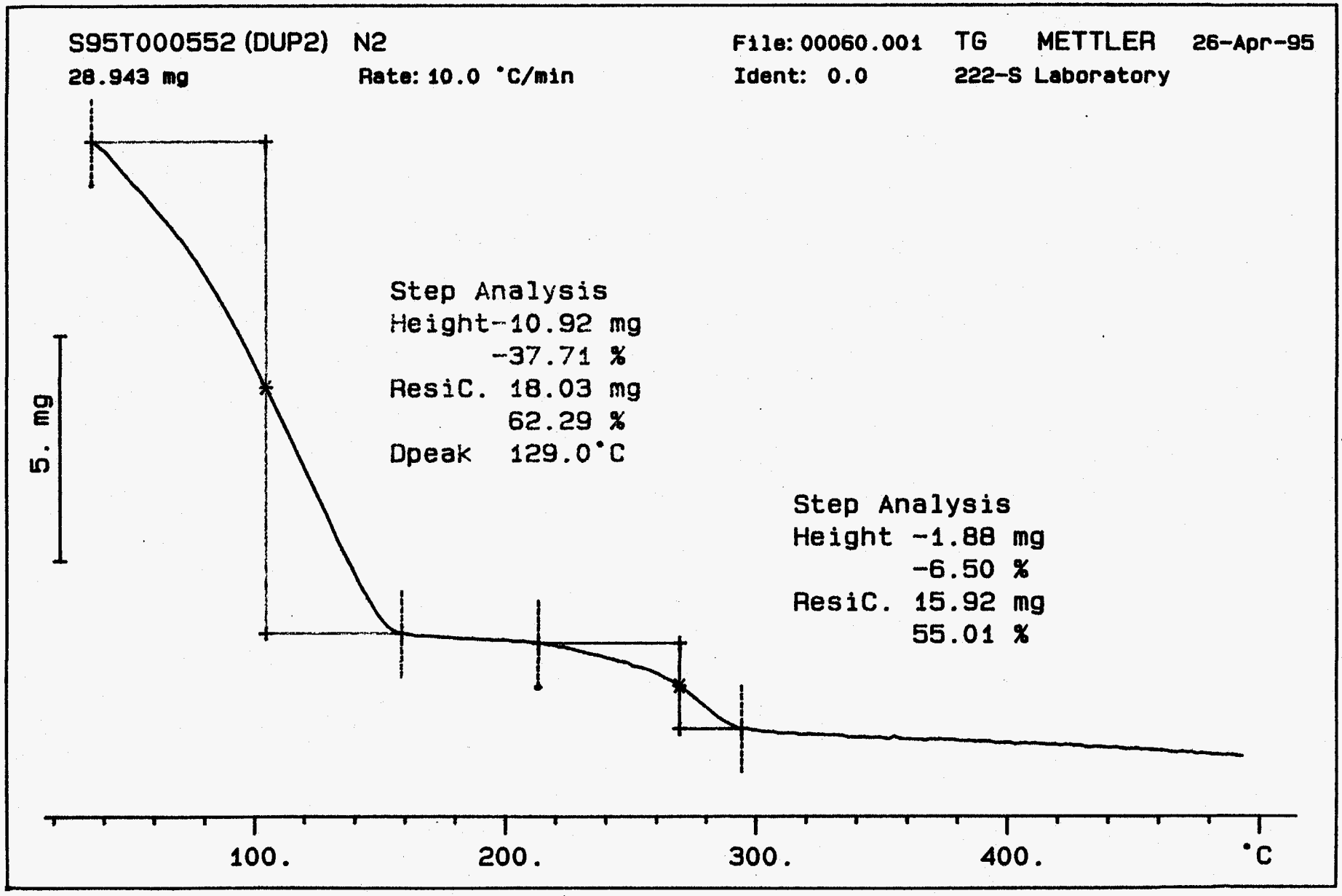












LABCORE Data Entry Template for Worklist# 949

Analyst: SMF **Instrument:** TGA01 **Book #** 42N8-A

Method: LA-514-114 Rev/Mod B-0

Worklist Comment: Please run U-201 TGA under N2. bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD				TGA-03	LIQUID	59.19	57.71	N/A	%
95000029	U-201	2 SAMPLE	S95T000531	0		TGA-03	LIQUID	N/A	70.50		%
95000029	U-201	3 DUP	S95T000531	0		TGA-03	LIQUID	70.50	69.46	N/A	%
95000033	U-201	4 SAMPLE	S95T000544	0		TGA-03	LIQUID	N/A	70.54		%
95000033	U-201	5 DUP	S95T000544	0		TGA-03	LIQUID	70.54	70.31	N/A	%

Final page for worklist # 949

See attached for signatures
Analyst Signature **Date**

Stan Peterson 4-27-95
Analyst Signature **Date**

Comments
See second page for additional comments

Leslie Day 4-27-95

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

LABCORE Data Entry Template for Worklist# 949

Analyst: SMF **Instrument:** TGA01 **Book #** 42N8-A

Method: ~~LA-560-112 Rev/Mod~~ LA-514-114/B-0 SMF 4-27-95

Worklist Comment: Please run U-201 TGA under N2. bdv

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				TGA-01	LIQUID			N/A	%
95000029	U-201	2	SAMPLE	S95T000531	0		TGA-01	LIQUID	N/A			%
95000029	U-201	3	DUP	S95T000531	0		TGA-01	LIQUID			N/A	%
95000033	U-201	4	SAMPLE	S95T000544	0		TGA-01	LIQUID	N/A			%
95000033	U-201	5	DUP	S95T000544	0		TGA-01	LIQUID			N/A	%

Final page for worklist # 949

Susie M. Dalton 4-27-95

Analyst Signature **Date**

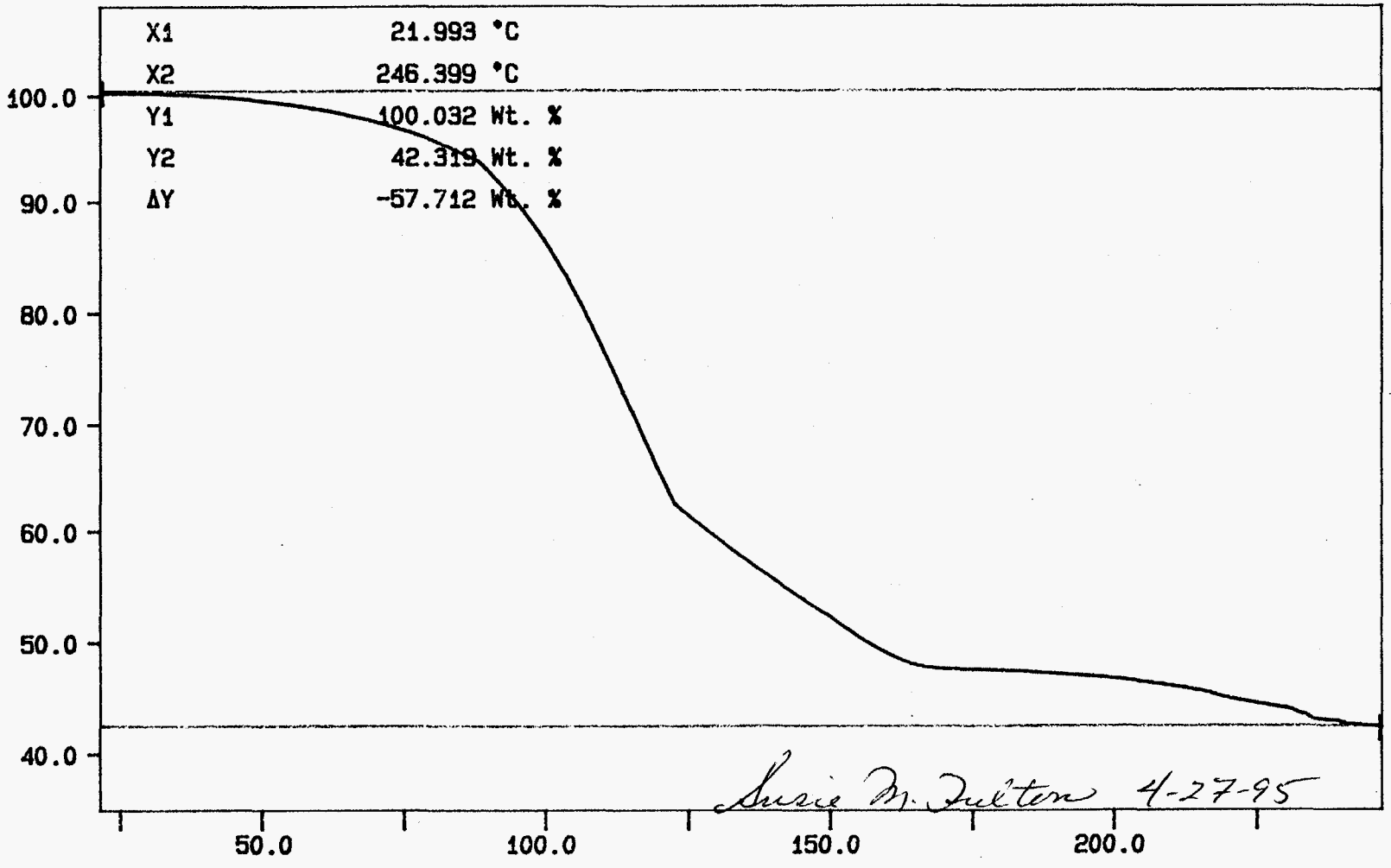
Analyst Signature **Date**

Data Entry Comments:
S95T000531 - Bright yellow liquid w/very thin layer of sediment.

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

Curve 1: TGA
File info: TER042701 Thu Apr 27 08:45:21 1995
Sample Weight: 12.281 mg
42N8A Terliq

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 71 TO 75.

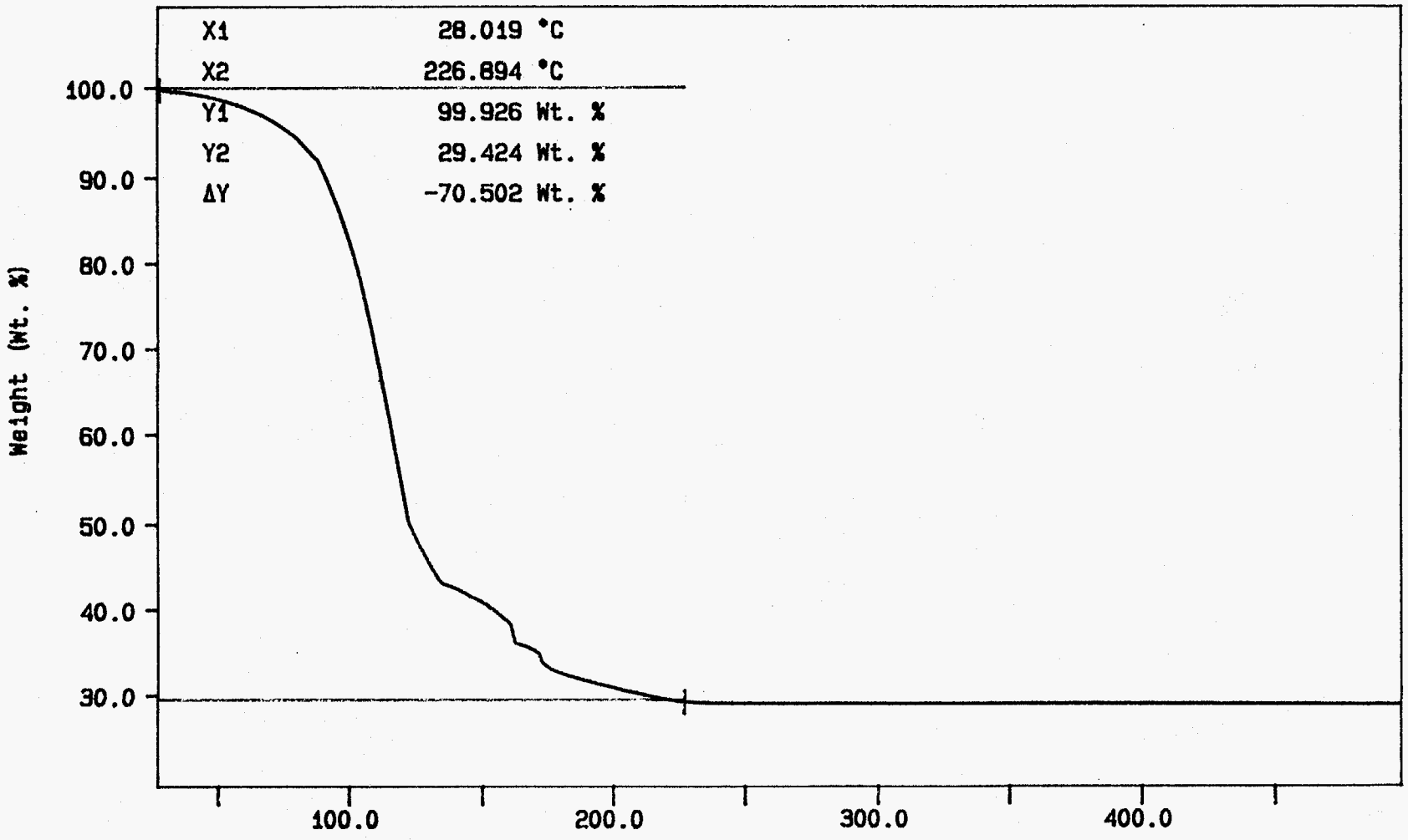


WHC-SD-WM-DP-107, REV.0

N2
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 260.0 C

SM Fulton
PERKIN-ELMER
7 Series Thermal Analysis System
Thu Apr 27 08:45:45 1995

Curve 1: TGA
File info: SAM042701 Thu Apr 27 09:49:35 1995
Sample Weight: 12.774 mg
S95T000531, 10C/min



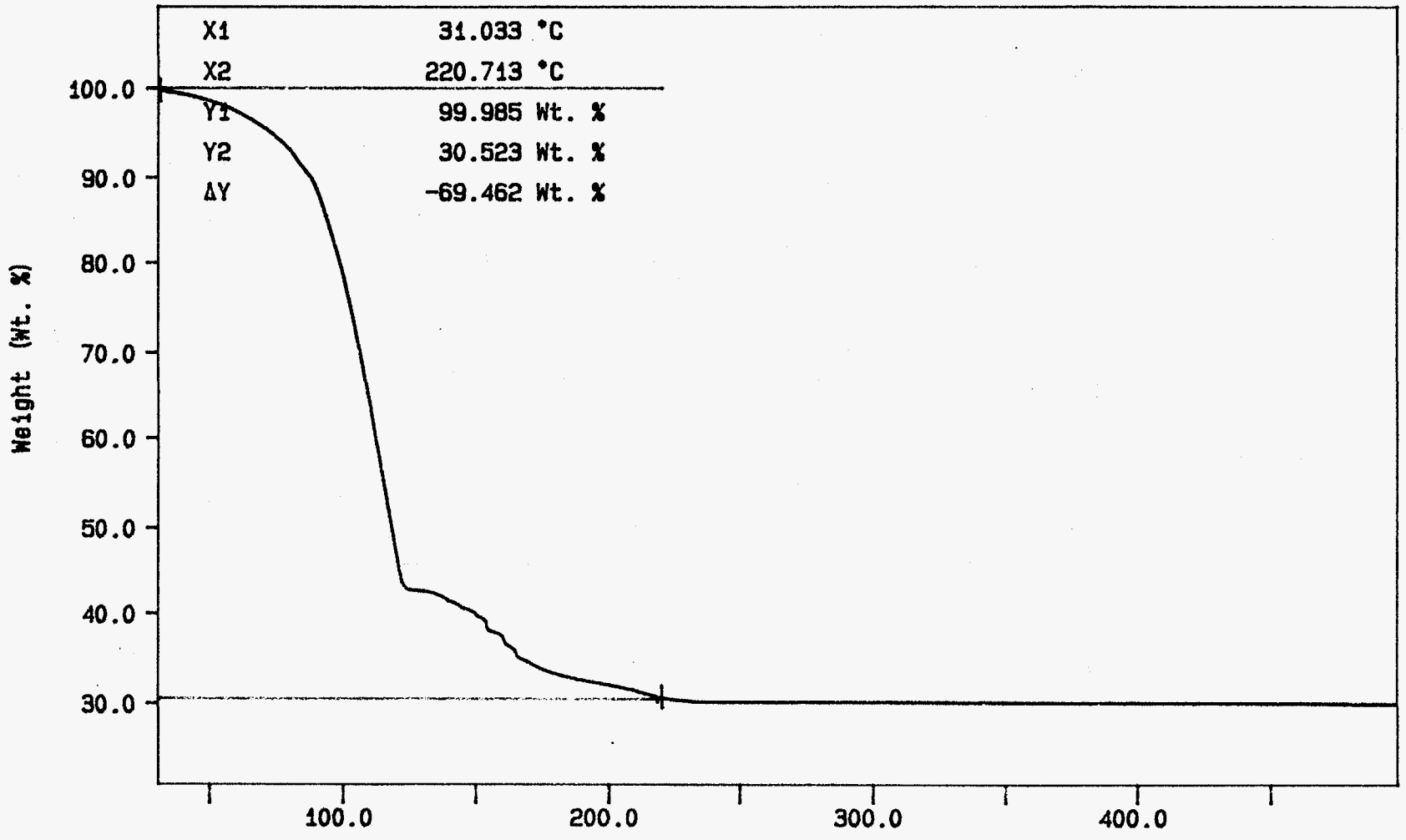
N2
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 500.0 C

SM Fulton
PERKIN-ELMER
7 Series Thermal Analysis System
Thu Apr 27 10:02:01 1995

WHC-SD-WM-DP-107, REV. 0

24

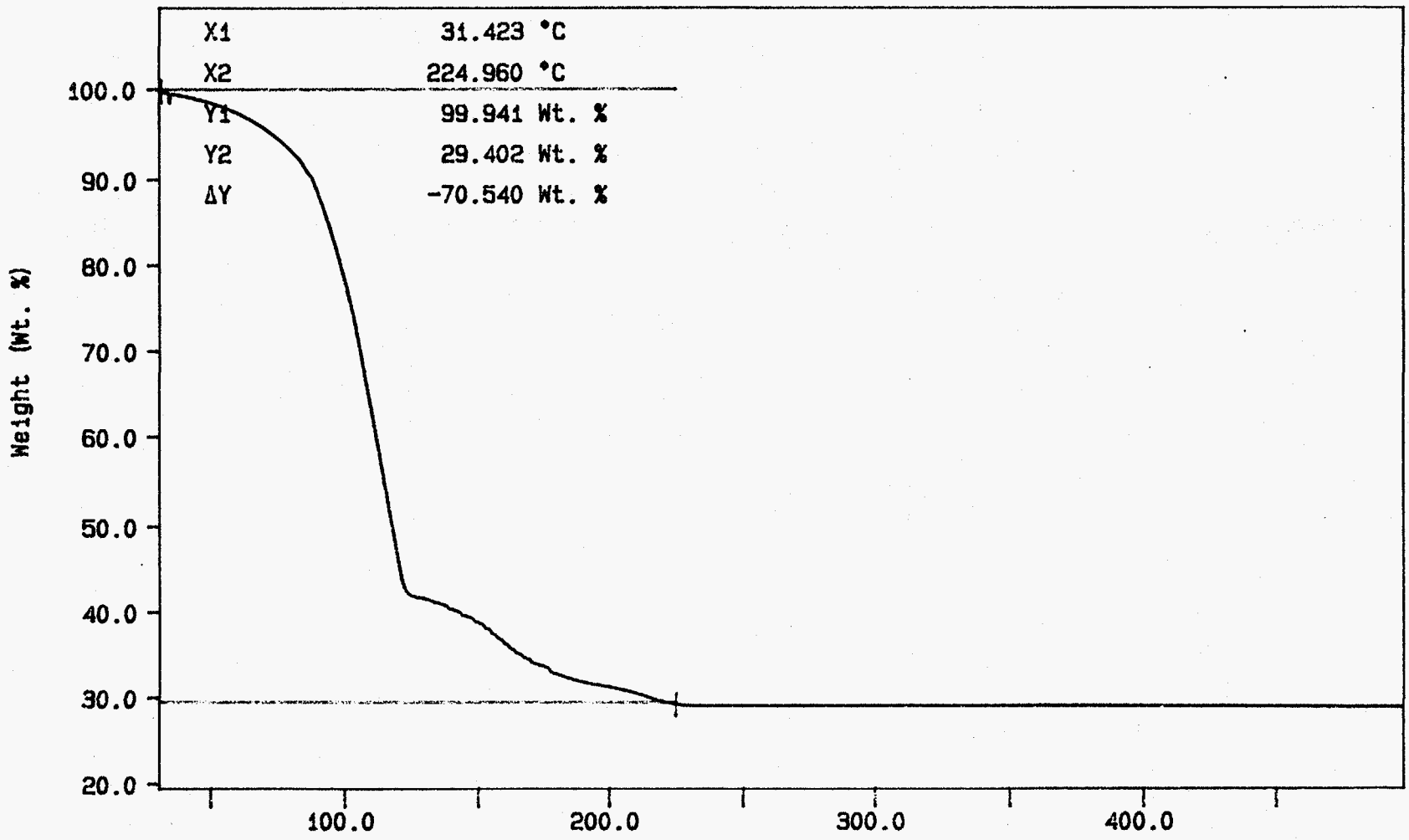
Curve 1: TGA
File info: SAM042702 Thu Apr 27 11:01:07 1995
Sample Weight: 10.911 mg
S95T000531(DUP), 10C/min



N2
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 500.0 C

SM Fulton
PERKIN-ELMER
7 Series Thermal Analysis System
Thu Apr 27 11:07:01 1995

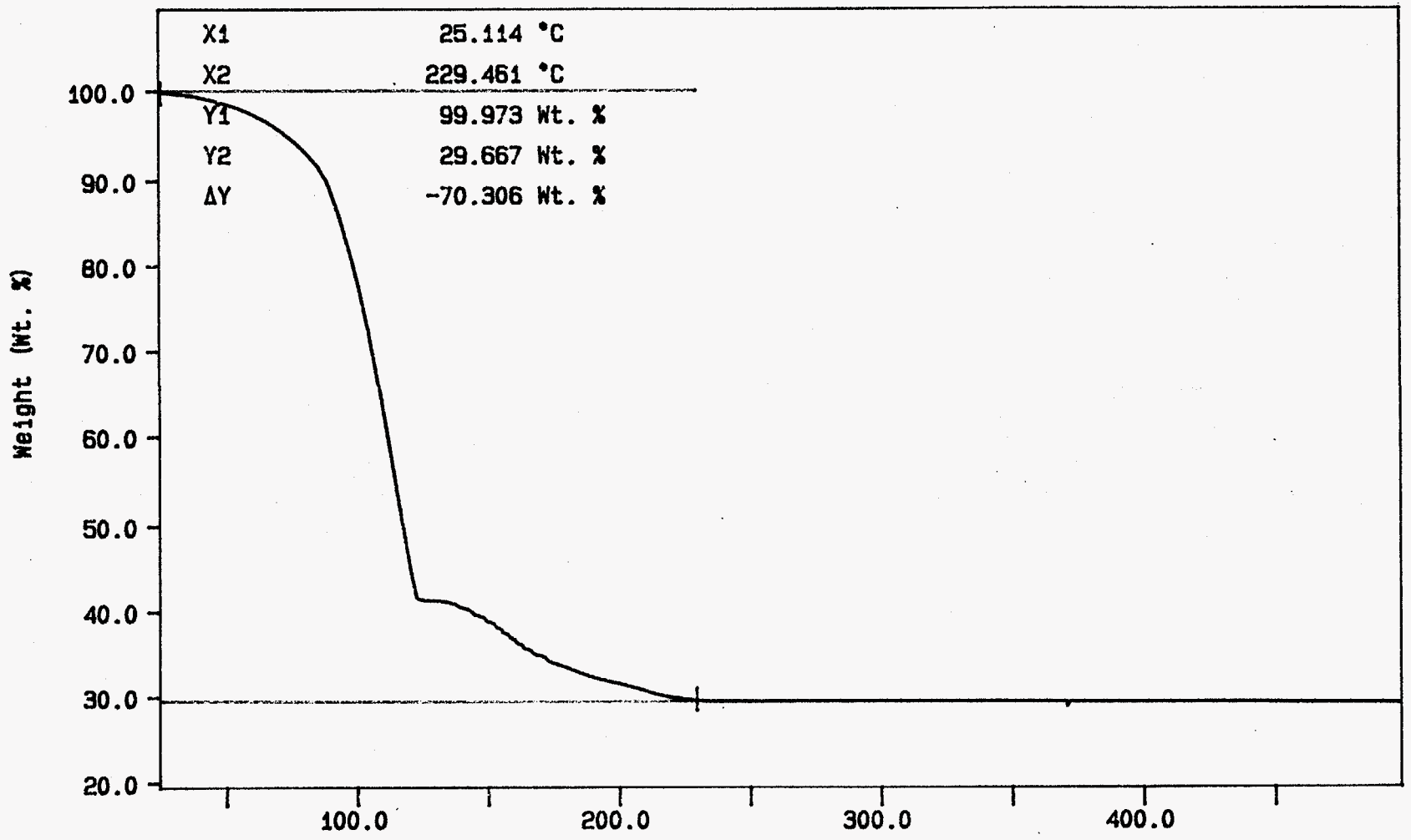
Curve 1: TGA
File info: SAM042703 Thu Apr 27 12:07:33 1995
Sample Weight: 10.538 mg
S95T000544, 10C/min



N2
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 500.0 C

SM Fulton
PERKIN-ELMER
7 Series Thermal Analysis System
Thu Apr 27 16:29:41 1995

Curve 1: TGA
File info: SAM042704 Thu Apr 27 14:05:57 1995
Sample Weight: 9.179 mg
S95T000544(dup), 10c/MIN



N2
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 600.0 C

SM Fulton
PERKIN-ELMER
7 Series Thermal Analysis System
Thu Apr 27 16:24:32 1995

WHC-SD-WM-DP-107, REV.0

LABCORE Data Entry Template for Worklist# 950

Analyst: SMF **Instrument:** TGA01 **Book #** 42N8-A

Method: LA-514-114 Rev/Mod B-0

Worklist Comment: Please run U-201 TGA under N2. bdv

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				TGA-03	LIQUID	59.19	58.25	N/A	%
95000033	U-201	2	SAMPLE	S95T000556	0		TGA-03	LIQUID	N/A	69.88		%
95000033	U-201	3	DUP	S95T000556	0		TGA-03	LIQUID	69.88	70.26	N/A	%

Final page for worklist # 950

See attached for signatures
Analyst Signature **Date**

Data entered + verified
Blandina Valenzuela
Analyst Signature **Date**

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

LABCORE Data Entry Template for Worklist# 950

Analyst: SMF **Instrument:** TGA01 **Book #** 42N8-17

Method: ~~LA-360-112 Rev/Mod~~ SMF 4-26-95 LA-514-114/13-0

Worklist Comment: Please run U-201 TGA under N2. bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD				TGA-01	LIQUID			N/A	%
95000033	U-201	2 SAMPLE	S95T000556	0		TGA-01	LIQUID	N/A			%
95000033	U-201	3 DUP	S95T000556	0		TGA-01	LIQUID			N/A	%

Final page for worklist # 950

Susie M. Sutton 4-26-95
Analyst Signature **Date**

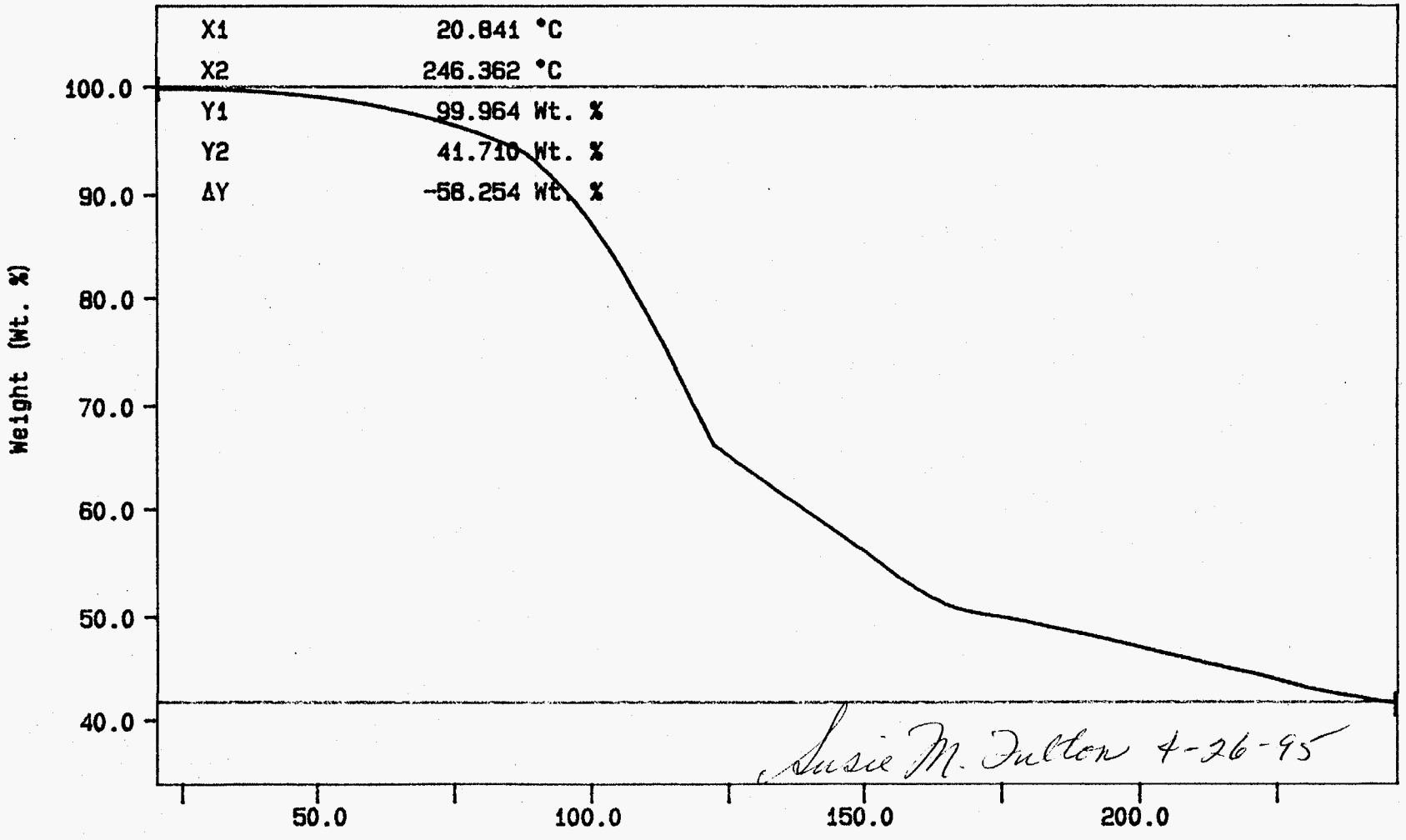
Analyst Signature **Date**

Data Entry Comments:
sample a bright yellow liquid.

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

Curve 1: TGA
File info: TER042601 Wed Apr 26 07:47:13 1995
Sample Weight: 17.100 mg
42N8A Terliq

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 78 TO 80.



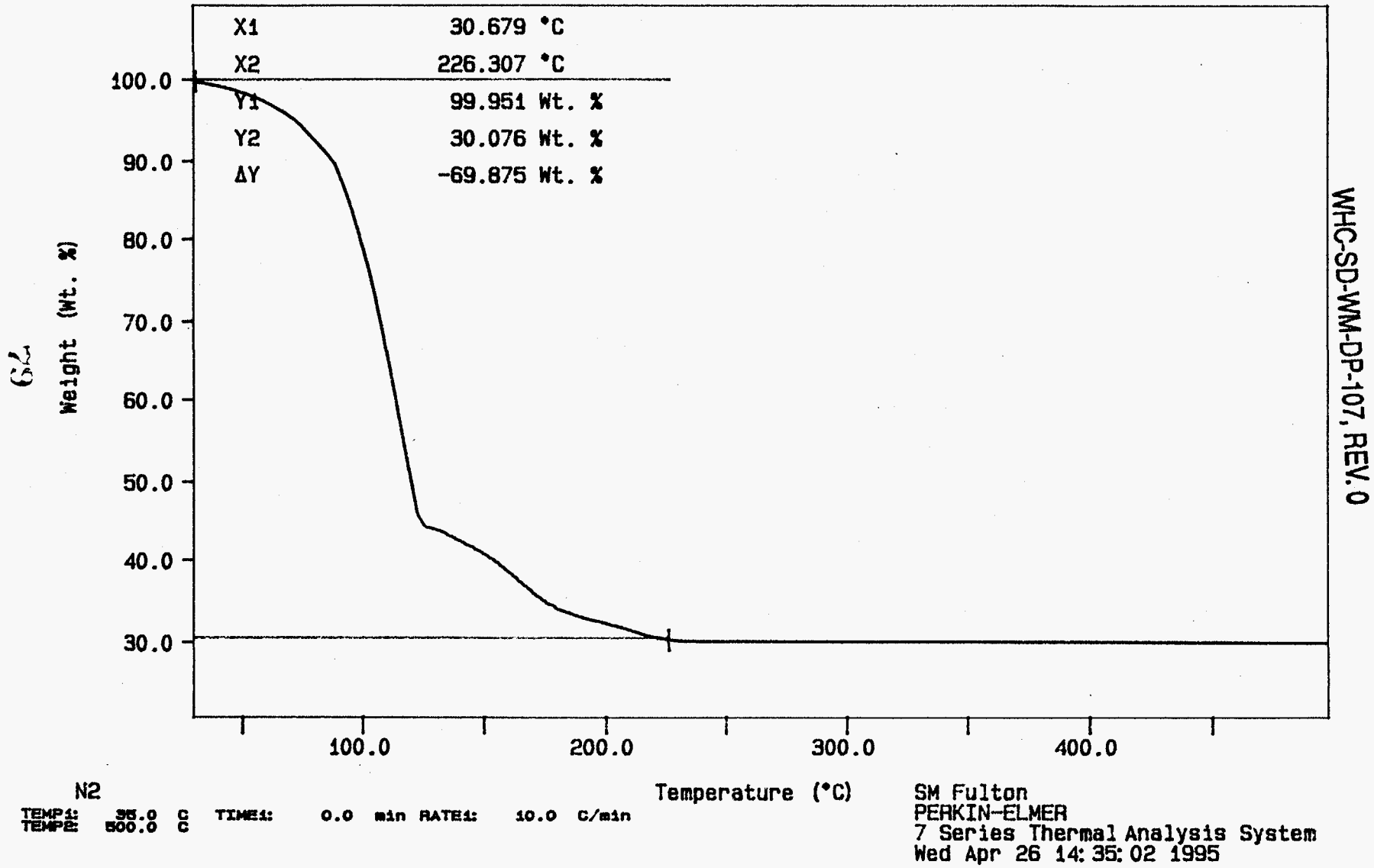
82

WHC-SD-WM-DP-107, REV.0

N2
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 250.0 C

SM Fulton
PERKIN-ELMER
7 Series Thermal Analysis System
Wed Apr 26 13:49:48 1995

Curve 1: TGA
File info: SAM042605 Wed Apr 26 14:29:06 1995
Sample Weight: 12.786 mg
S95T000556, 10C/min



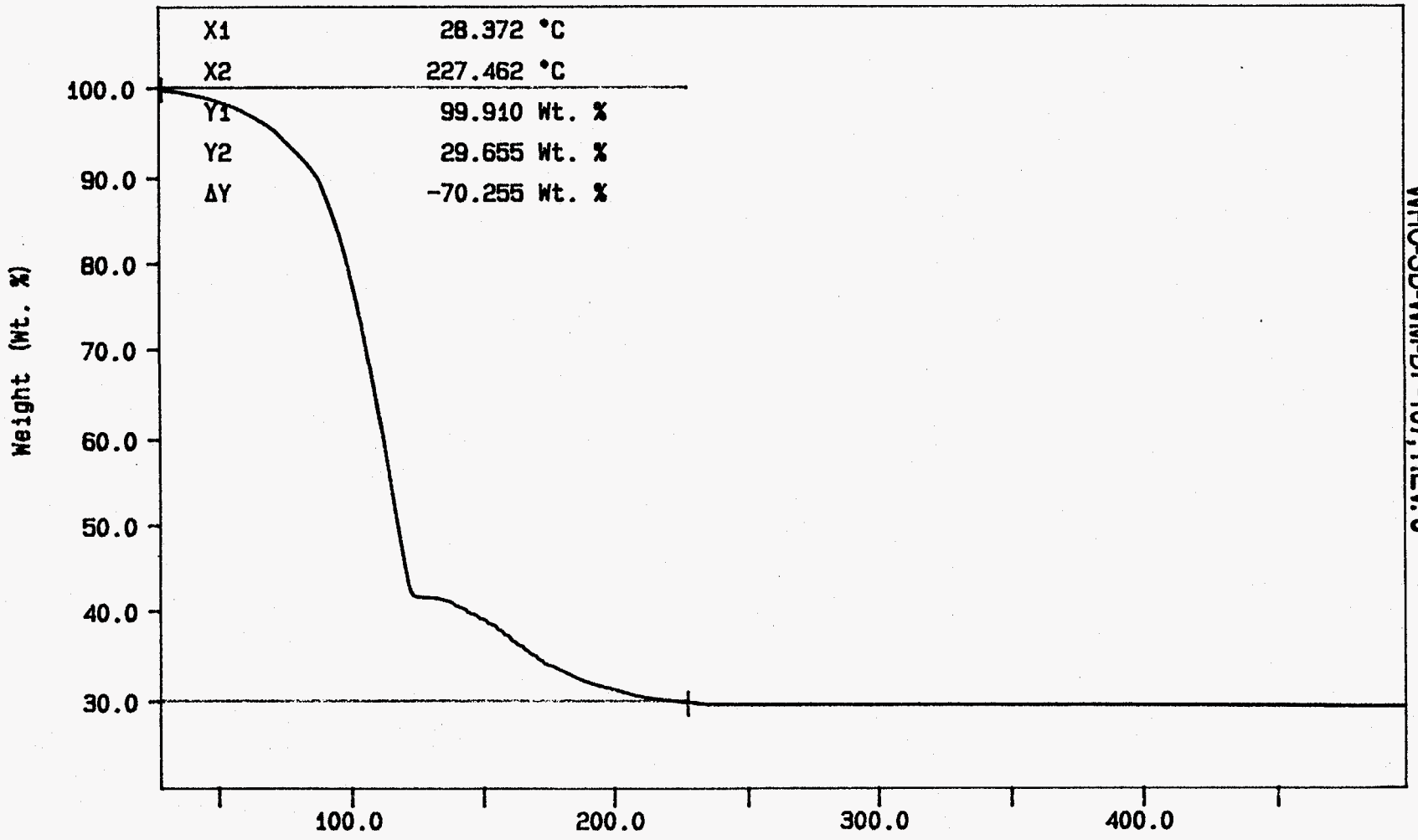
WHC-SD-WM-DP-107, REV.0

62

N2
TEMP1: 95.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 500.0 C

SM Fulton
PERKIN-ELMER
7 Series Thermal Analysis System
Wed Apr 26 14:35:02 1995

Curve 1: TGA
File info: SAM042606 Wed Apr 26 15:35:44 1995
Sample Weight: 10.047 mg
S95T000556(DUP), 10C/min



WHC-SD-WM-DP-107, REV.0

N2
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 600.0 C

SM Fulton
PERKIN-ELMER
7 Series Thermal Analysis System
Wed Apr 26 15:38:12 1995

LABCORE Data Entry Template for Worklist# 1033

Analyst: RDM **Instrument:** TGA01 _____ **Book #** 42N8-A

Method: LA-560-112 Rev/Mod A-2

Worklist Comment: Please run U-201 TGA under N2. bdv

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				TGA-01	LIQUID	59.19	58.18	N/A	%
95000029	U-201	2	SAMPLE	S95T000625	0		TGA-01	LIQUID	N/A	70.88		%
95000029	U-201	3	DUP	S95T000625	0		TGA-01	LIQUID	70.88	70.50	N/A	%

Final page for worklist # 1033

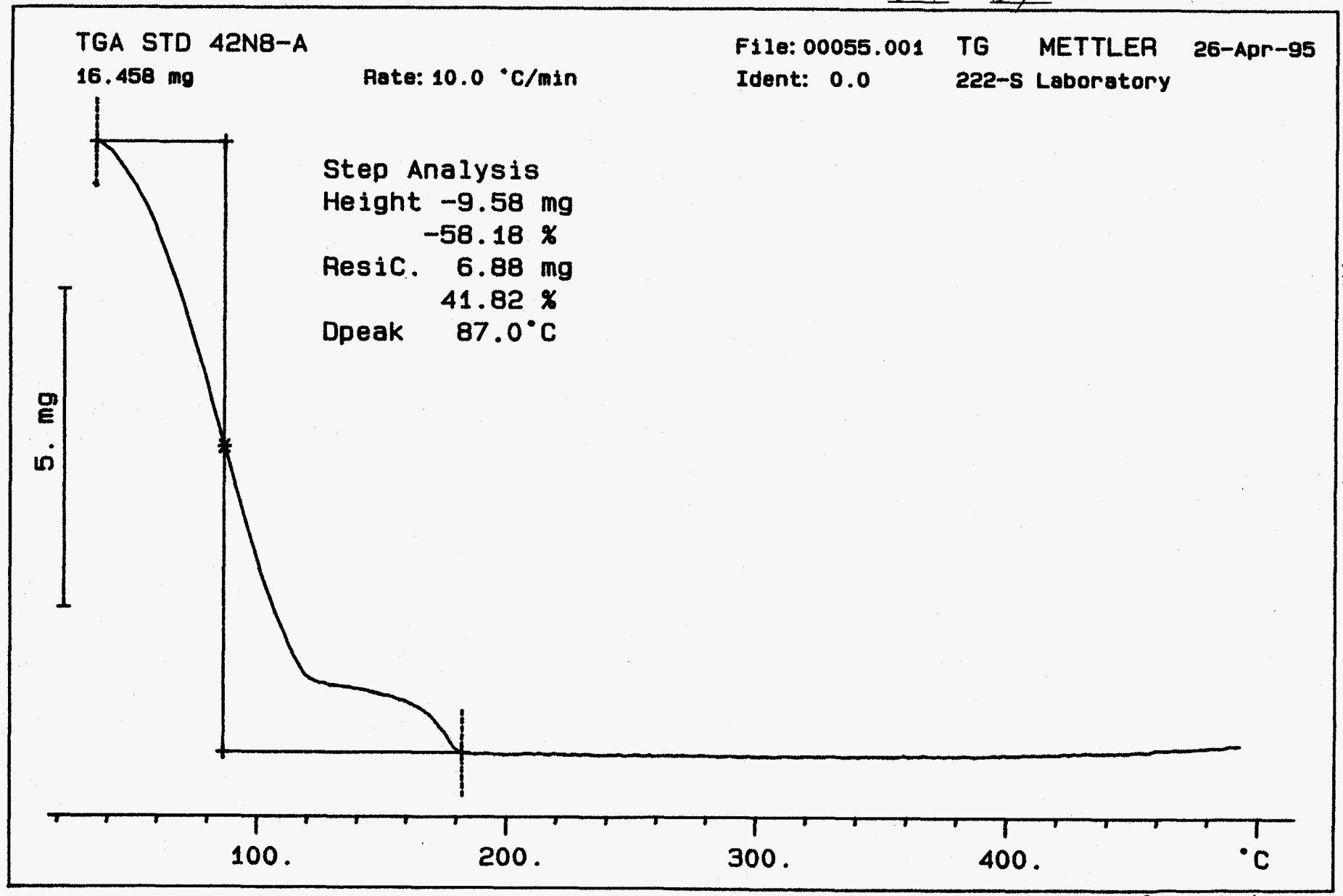
R D Mayer 4/26/95
Analyst Signature **Date**

Data entered and verified by Blandina Valenzuela
Analyst Signature **Date**

Data Entry Comments:

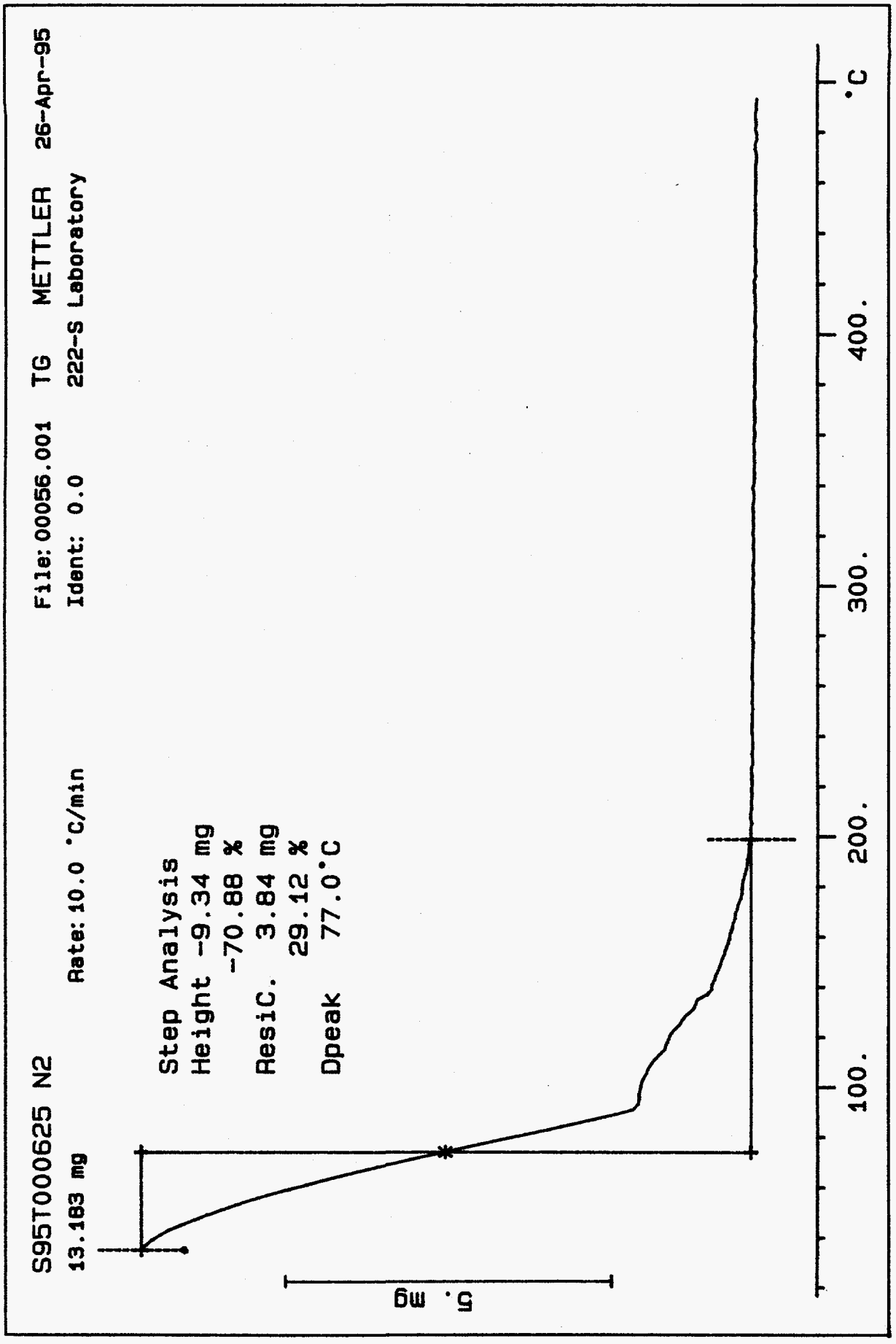
Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

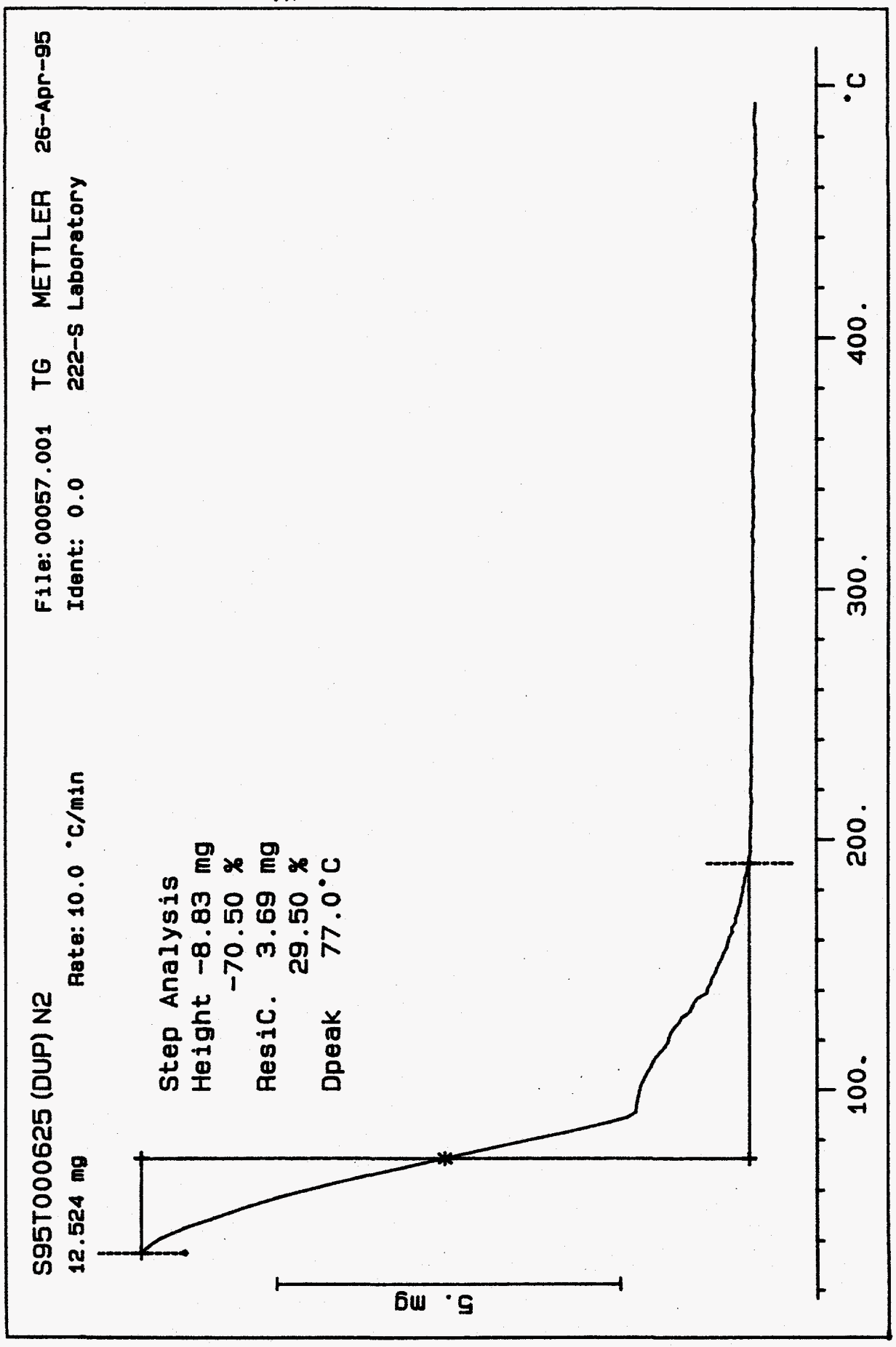
SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 82 TO 84.



Leslie Diaz 4/27/95

BEST AVAILABLE COPY





LABCORE Data Entry Template for Worklist# 1046

Analyst: SMF **Instrument:** TGA01 **Book #** 42N8-A

Method: LA-514-114 Rev/Mod B-0

Worklist Comment: Please run U-201 TGA under N2. bdv

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				TGA-03	SOLID	59.19	58.23	N/A	%
95000029	U-201	2	SAMPLE	S95T000613	0		TGA-03	SOLID	N/A	30.58		%
95000029	U-201	3	DUP	S95T000613	0		TGA-03	SOLID	30.58	31.51	N/A	%
		4	STD				TGA-03	SOLID	59.19	57.08	N/A	%
95000029	U-201	5	SAMPLE	S95T000619	0		TGA-03	SOLID	N/A	25.09		%
95000029	U-201	6	DUP	S95T000619	0		TGA-03	SOLID	25.09	26.15	N/A	%

Final page for worklist # 1046

See attached for Signature
Analyst Signature **Date**

[signature] 4-26-95
Analyst Signature **Date**

Verified by Blandina Valenzuela 4/26/95

Data Entry Comments: S95T000613 (4/26/95 BDV) produced a second weight loss step of 13.6% at approximately 300°C. (4/26/95 BDV) S95T000619 analysis was performed the day after S95T000613 with a new standard. S95T000619 produced a second weight loss step of 16.75% at approximately 290°C. (BDV 4/26/95)

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

LABCORE Data Entry Template for Worklist# 1046

Analyst: SMF LAD 4-27-95 **Instrument:** TGA01 **Book #** ~~42N8-A~~ SMF 4/24/95 ~~42N8-A~~ SMF 42N8-A

Method: ~~LA-560-112~~ Rev/Mod CA-514-114/BO

Worklist Comment: Please run U-201 TGA under N2. bdv

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				TGA-01	SOLID			N/A	%
95000029	U-201	2	SAMPLE	S95T000613	0		TGA-01	SOLID	N/A			%
95000029	U-201	3	DUP	S95T000613	0		TGA-01	SOLID			N/A	%
95000029	U-201	4	SAMPLE	S95T000619	0		TGA-01	SOLID	N/A			%
95000029	U-201	5	DUP	S95T000619	0		TGA-01	SOLID			N/A	%

Final page for worklist # 1046

Susie M. Fulton 4-25-95

Analyst Signature **Date**

Analyst Signature **Date**

Data Entry Comments:

S95T000613 - light yellow liquid w/ large clear crystals (approx 1/8" ø)

S95T000619 - LAD 4-27-95 ~~same as T...613~~

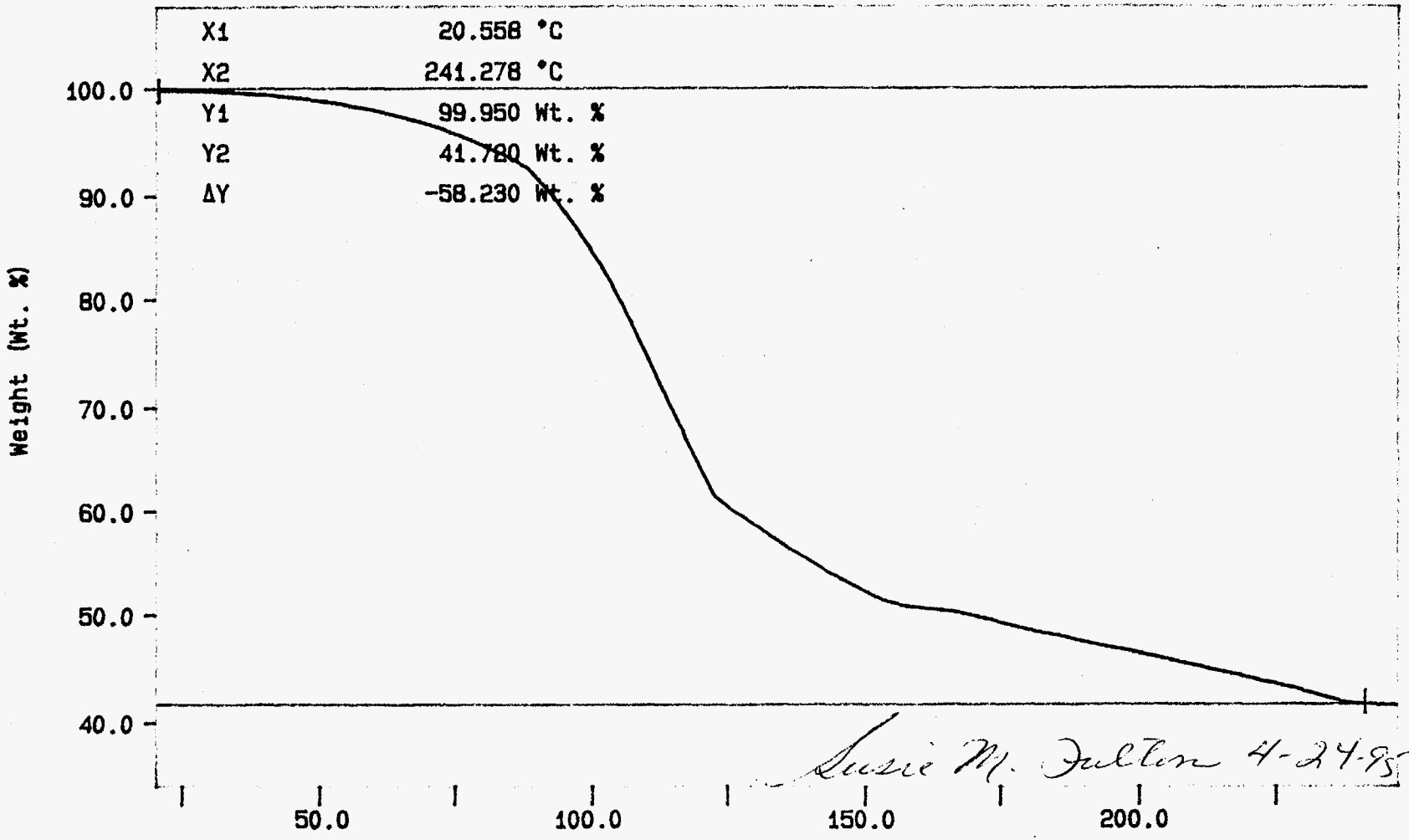
light yellow thick liquid w/a thin watery layer & sm ~~crystals~~ crystals

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

Curve 1: TGA
File info: TER042401 Mon Apr 24 10:46:35 1995
Sample Weight: 12.863 mg
42N8A Terliq

BEST AVAILABLE COPY

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 87 TO 92.



Susie M. Fulton 4-24-95

N2
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 250.0 C

SM Fulton
PERKIN-ELMER
7 Series Thermal Analysis System
Mon Apr 24 11:00:52 1995

87

WHC-SD-WM-DP-107, REV. 0

Curve 1: TGA
File info: SAM042401 Mon Apr 24 12:13:29 1995
Sample Weight: 18.201 mg
S95T000~~590~~: 10C/min

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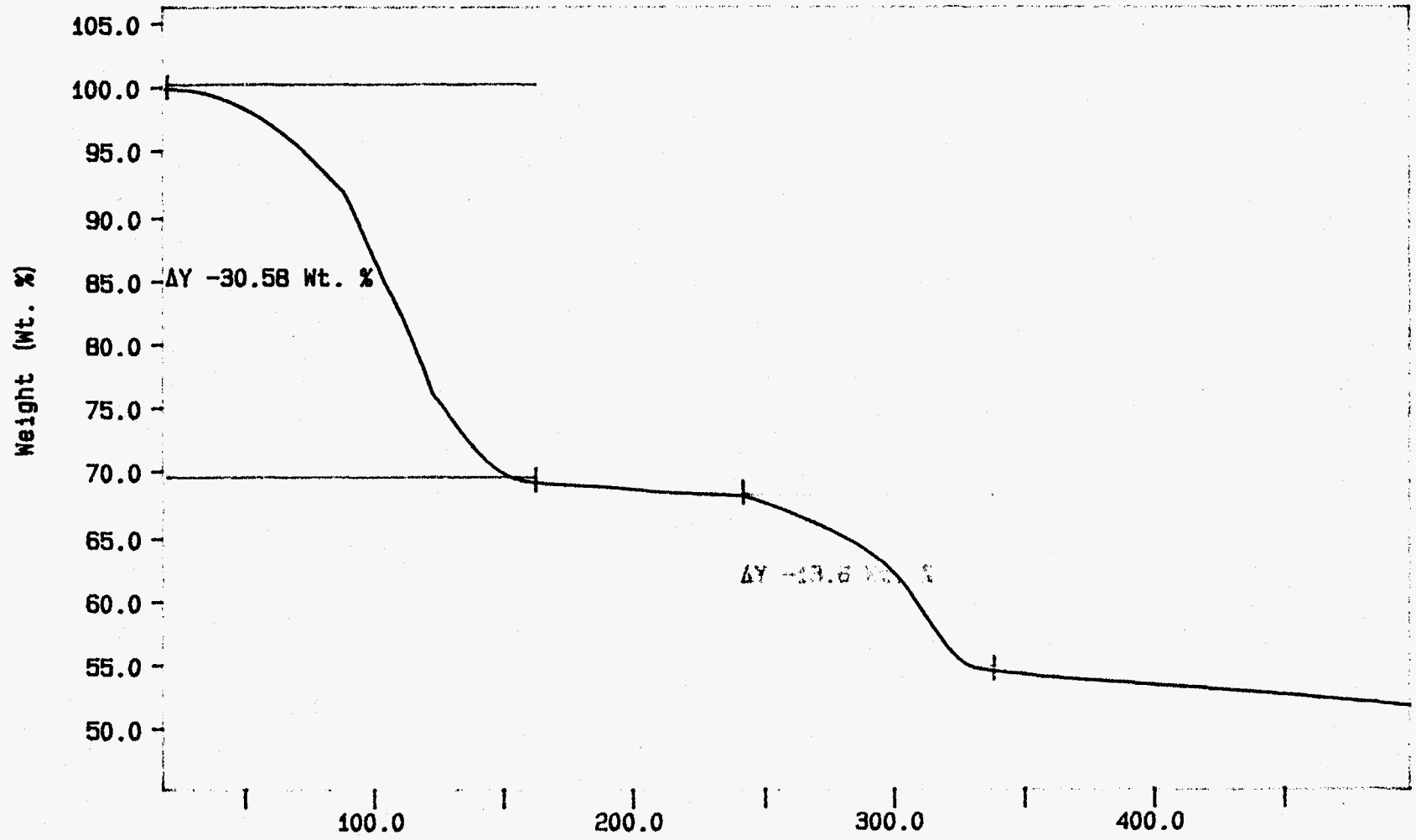
613
SMF 4-24-95



N2
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 500.0 C

SM Fulton
PERKIN-ELMER
7 Series Thermal Analysis System
Mon Apr 24 13:36:10 1995

88

WHC-SD-WM-DP-107, REV.0

Curve 1: TGA
File info: SAM042402 Mon Apr 24 14:36:33 1995
Sample Weight: 18.917 mg
S95T000613(dup). 10C/min

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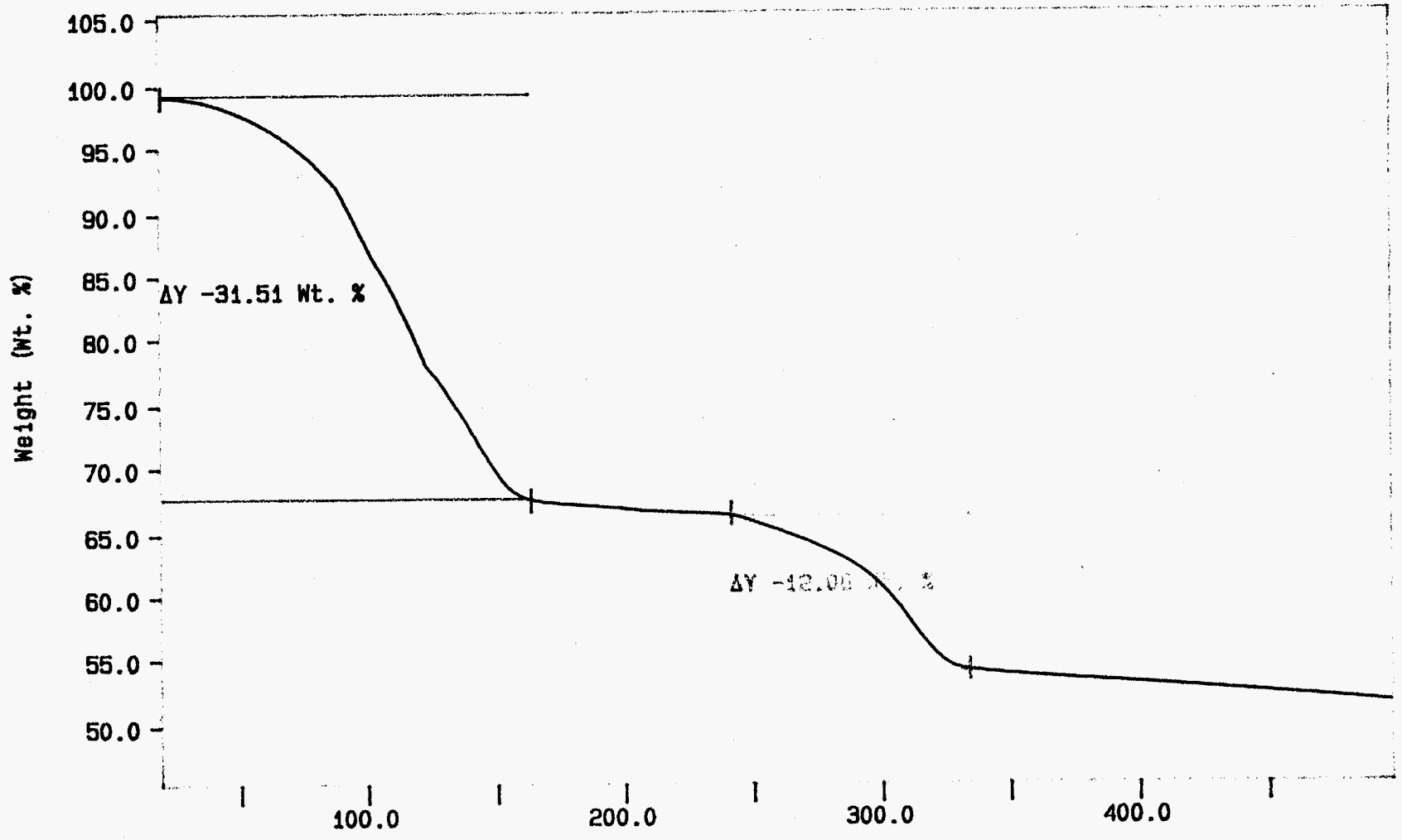

N2
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 600.0 C

SM Fulton
PERKIN-ELMER
7 Series Thermal Analysis System
Mon Apr 24 14:58:44 1995

Curve 1: TGA
File info: TER042501 Tue Apr 25 08:03:23 1995
Sample Weight: 15.894 mg
42N8A Terliq

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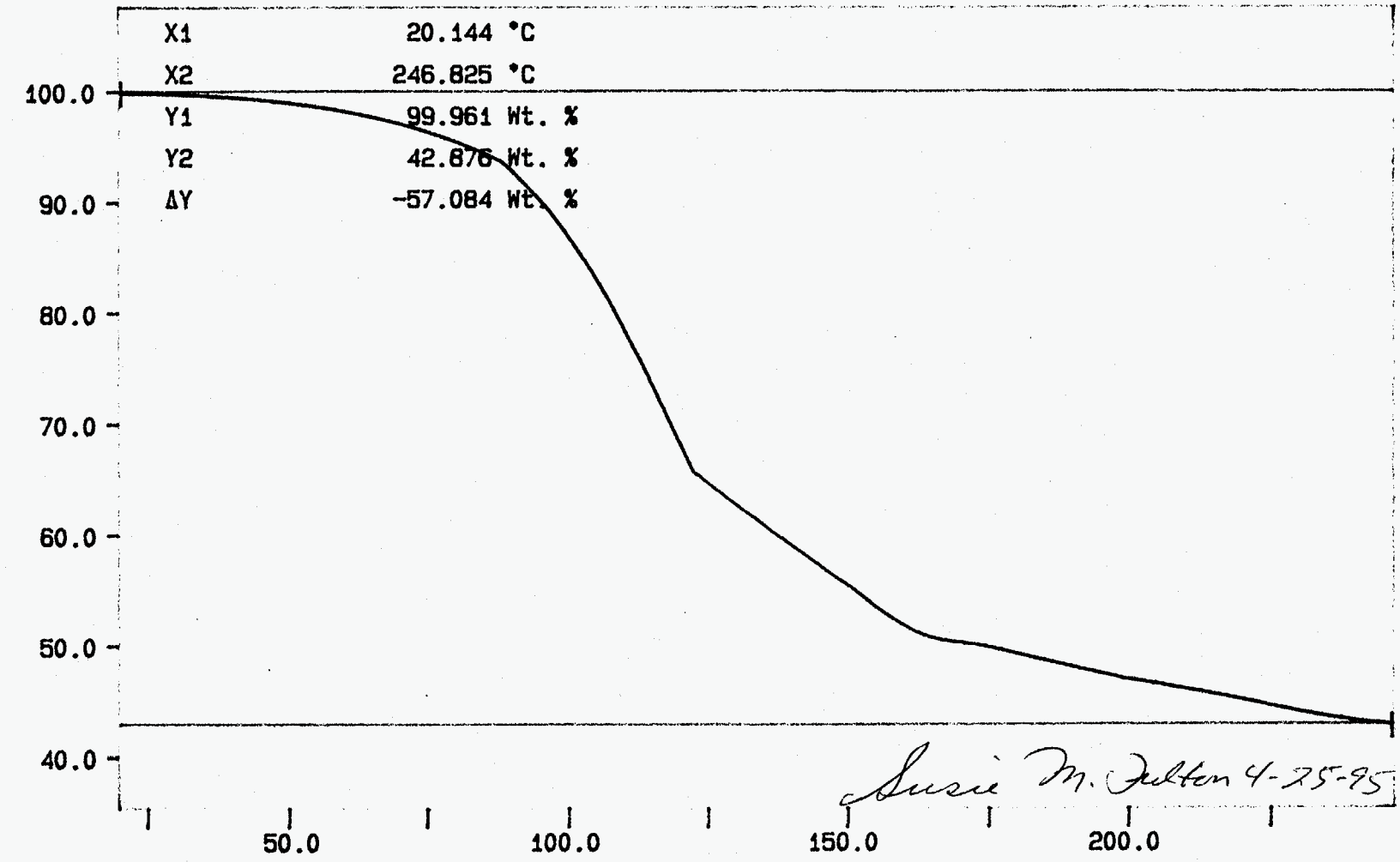


Susie M. Fulton 4-25-95

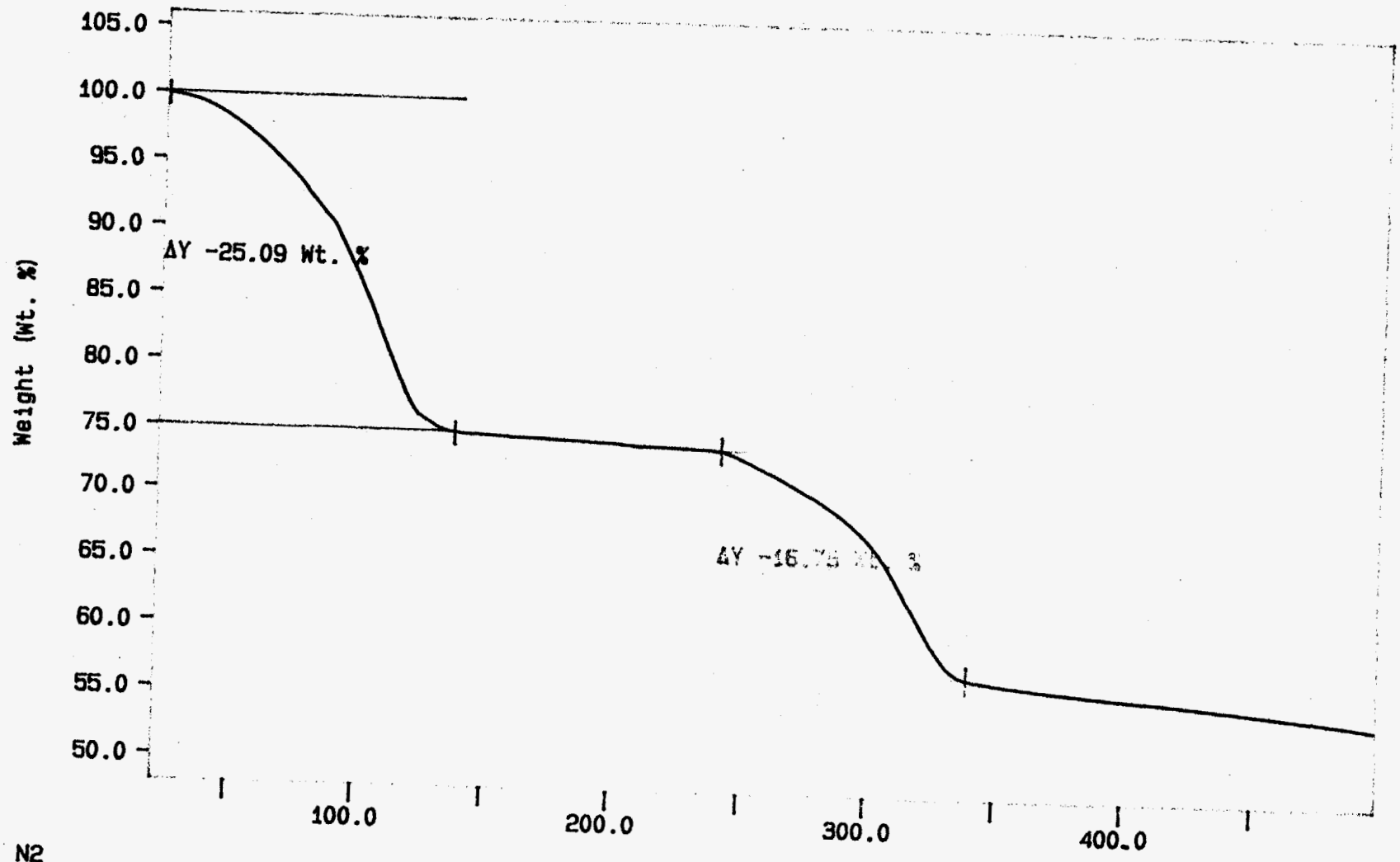
N2
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 250.0 C

SM Fulton
PERKIN-ELMER
7 Series Thermal Analysis System
Tue Apr 25 08:08:46 1995

90

WHC-SD-WM-DP-107, REV. 0

Curve 1: TGA
File info: SAM042501 Tue Apr 25 09:14:01 1995
Sample Weight: 20.991 mg
S95T000619, 10C/min

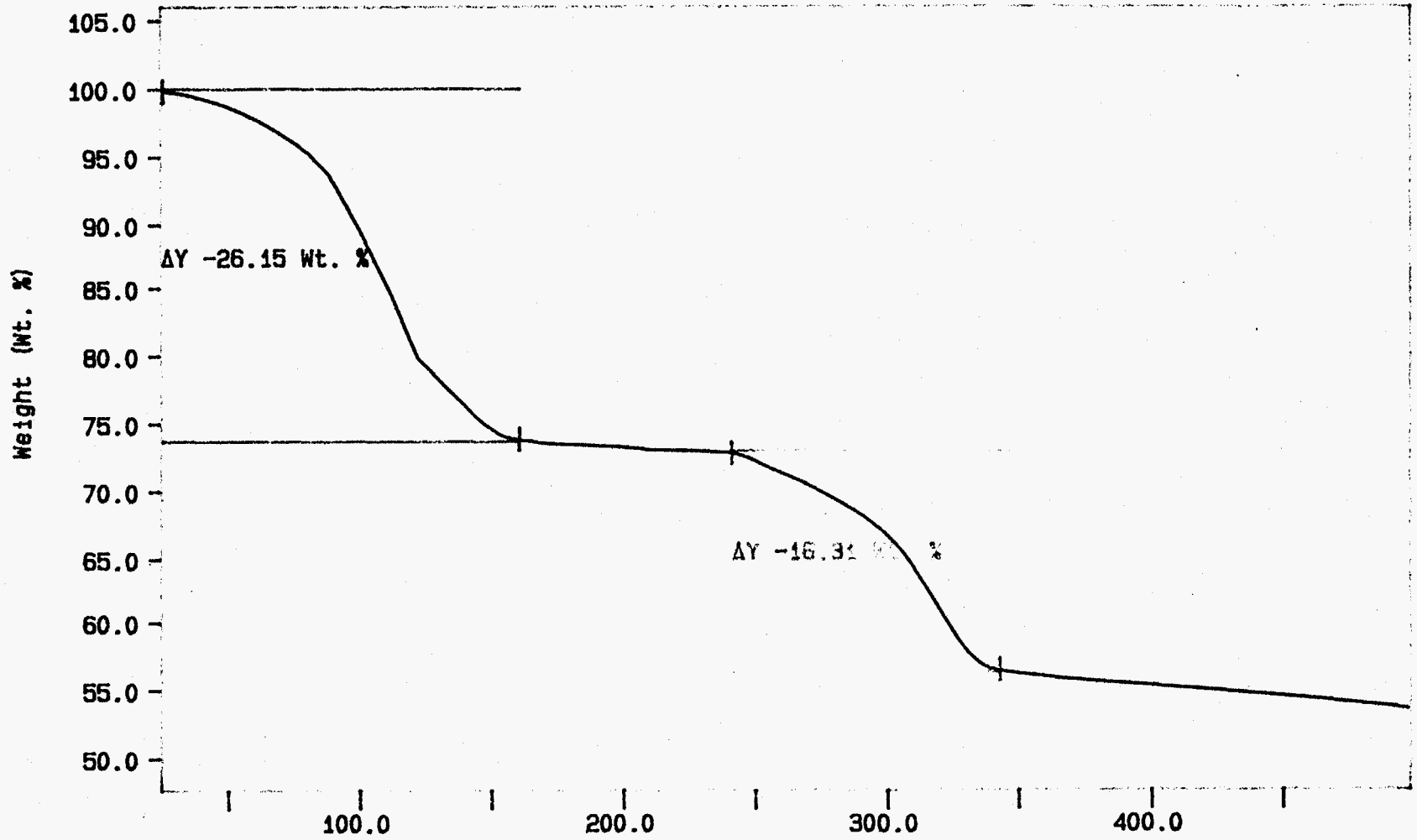


N2
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 500.0 C

SM Fulton
PERKIN-ELMER
7 Series Thermal Analysis System
Tue Apr 25 09:49:59 1995

Curve 1: TGA
File info: sam042502 Tue Apr 25 10:45:40 1995
Sample Weight: 24.258 mg
S95t000619(dup). 10c/MIN

BEST AVAILABLE COPY



N2
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 600.0 C

SM Fulton
PERKIN-ELMER
7 Series Thermal Analysis System
Tue Apr 25 11:08:19 1995

WHC-SD-WM-DP-107, REV.0